Health and Welfare Canada
Santé et Bien-être social Canada

Canada

disabled persons in canada

1981
International Year of Disabled Persons

DISABLED PERSONS
IN
CANADA

Published by authority of the
Minister of National Health and Welfare

Revised Edition - January 1981

Cat. No. H 74-1/1980E

ISBN 0-662-10981-3

This report is available on cassette from:

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Ottawa K1A 1B5
Canada

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Également disponible en français sous le titre
"les personnes handicapées au canada".

OTTAWA, January 1981

This publication was first issued for distribution to delegates to the XIVth World Congress of Rehabilitation International at Winnipeg, in June of 1980. Requests for copies of this publication, both from Canada and abroad, have far out-stripped the supply. My Department has taken advantage of the need for a reprint to include additional information and comments which came to us following the initial publication.

It is most appropriate that this second edition of "Disabled Persons in Canada" be published early in 1981 - International Year of Disabled Persons, which has as its theme "Full Participation and Equality". All levels of government have enunciated a public policy objective of rehabilitation and integration of disabled persons. Since World War II, policies and programs have developed significantly, culminating in Canada's support of the U.N. resolution proclaiming 1981 the International Year of Disabled Persons (IYDP).

More recently, a Special Committee of the House of Commons was established to report on the needs of the disabled and the handicapped. I expect the Committee's report will provide guidance and impetus to many activities and programs which will be initiated during the International Year and in the future to enable disabled persons to participate fully in employment, education, travel and leisure activities which are available to other Canadians.

I sincerely hope that 1981 will be the first of many years of real progress for disabled persons and their families in Canada.

Monique Bégin

Monique Bégin
Minister of National Health and Welfare

Three distinguished Canadians served on an editorial board which guided the overall development of the report. They are: Dr. Gustave Gingras, M.D., Director of the Rehabilitation Centre, Charlottetown, Prince Edward Island, advisor on rehabilitation services to the government of that province and a person whose name is synonymous with post-World War II developments in the field; Allan T. Mann, a guiding light of the Canadian Paraplegic Association since 1946 and active member of the board of Ten Ten Sinclair, an interim residential training facility for physically handicapped persons at Winnipeg, Manitoba; and Dr. G. Allan Roeher of Toronto, Ontario, retired executive vice-president of the Canadian Association for the Mentally Retarded and founding Director of the National Institute on Mental Retardation at York University, Toronto. The Chairman of the editorial board was André LeBlanc, Director of the Bureau on Rehabilitation, Health and Welfare Canada, in Ottawa. The Bureau commissioned source documents for this report and was responsible for its production.

Terrence P. McLaughlin of Ottawa was writer-editor, doing additional research as necessary. His special contributions were to Chapters II (Historical Highlights), IV (The Consumer Movement) and V (Images and Attitudes). Mr. McLaughlin also revised the book for the second printing.

Freida L. Paltiel, senior advisor on the Status of Women, Policy Development, at Health and Welfare Canada, made a particularly significant contribution as author of Chapters I (An Introductory Overview), III (Mental and Emotional Disorders) and IX (Prevention of Disability). In addition to sitting on the editorial board, Dr. Roeher contributed Chapter X (Challenges for the 80's).

Authors and collaborators on other chapters include: Michael A. Dagg, II (Historical Highlights), Rodney Carpenter, IV (The Consumer Movement) and V (Images and Attitudes), Robert Viau and Randell Stanton, V (Images and Attitudes), John Clark, Marjorie Saldana and Charles Walker, VII (Federal Legislation), and Sheila Lamont and Charles Walker, VIII (Provincial Legislation).

Providing research and papers for the sub-chapters of Chapter VI were: Harry Monk (Human Rights), Claire Heggtveit (Medical Rehabilitation), Michael Peters, Wilf Race and Joe Klein (Employment-related Services), Brian McCoy, D. Robinson and Ted Ketchum (Disability Benefits Programs), W. Bruce McKenzie (Residential Care), Sylvia Goldblatt and Tom Blue (Housing), John Clark (Special Education), Robert Lucyk (Communications), Paul Dupré (Sports and Recreation), Claude Fabrizio (Arts, Culture and Handicapped), Janice Tait, Mary Allen and Tom Blue (Transportation), Al Fabbro, Harold Morrow and Tom Blue (Access to Public Buildings and Facilities), O.Z. Roy and Joe Klein (Research and Development). Cover design was adapted by the Information Services Directorate, Health and Welfare Canada from a design by Morris Danylewich, Canadian Government Expositions Centre.

Many others have been involved in contributing to this report, whether writing source documents, providing research or making comments on drafts, doing translation, word processing and typing. These persons, unfortunately too many to cite by name, are with the Government of Canada, the Province and the non-governmental sector. To all, we express sincere appreciation.

DISABLED PERSONS IN CANADA - AN INTRODUCTORY OVERVIEW

> Handicapped people must be given the opportunity to develop their talents and interests in conjunction with those who share their aspirations and intellectual inclinations. They must be allowed to develop their capacities to the fullest extent possible and be exposed to the stimulation of the creative process. In short, they must be challenged, not sheltered.
>
> Wilf Race (1971)

The year 1981 has been proclaimed International Year of Disabled Persons by the General Assembly of the United Nations. Aim of the Year is to encourage the rehabilitation of an estimated four hundred million people, mostly in developing countries, who have some form of physical or mental impairment. Keynote theme of the year is "Full Participation and Equality".

The United Nations has further decided to declare a World Assembly on the Elderly in 1982, designated as a forum to launch an international action program aimed at guaranteeing economic and social security for older persons, as well as opportunities to contribute to national development. In June 1980, Canada hosted the World Congress of Rehabilitation International, theme of which was "Integration and Prevention".

These three events, at the start of a new decade, provide Canada with the opportunity and challenge to take an honest look at the status of disabled persons in Canada and to undertake a comprehensive action plan to promote the full participation of the disabled in all facets of Canadian society.

Until recently, disabled children and adults had to live not only with physical or mental impairment but also with the psychic insults of derision, ostracism, stigma, stereotype, charity and neglect. The fact that this is no longer the norm, although by no means eradicated, is largely a tribute to the articulate advocacy and persevering efforts of Canadian voluntary organizations, and more recently self-help consumer groups, their families and friends.

The Seventies

It is commonly believed that following the turbulent sixties, the seventies was a decade marked by a lowered social conscience, by conservatism and selfishness. While there is some evidence to support this, for the disabled even a cursory review of the decade reveals the opposite.

The decade was characterized by a marked change of attitudes and major advances in human rights in all 10 provinces and the Federal Government. It witnessed the emergence of self-help consumer groups; of the women's movement; of improvements in the quantity and quality of special education, with a trend towards integration; progressive improvements in income security; scientific progress in medicine and more rapid dissemination of advanced biomedical and bioengineering techniques, procedures and devices for early detection, monitoring, restoration, rehabilitation, and aids to daily living.

Further developments included massive de-institutionalization of the mentally disordered and mentally retarded, diversification of services, (e.g., genetic counselling, neonatology) improvements in the quality and quantity of health professionals, the development of home support services, greater awareness and concern about environmental and occupational health hazards, and the consequences of lifestyles for health.

Another commonly held misconception is that disadvantaged groups must compete with one another for scarce rights and resources and that one must choose from among the handicapped, natives, women, the poor. It is noteworthy that 1975, which was International Women's Year, was also the Year of the Declaration of the Rights of the Disabled. Disabled persons are composed of both sexes, all ages (although disability increases with age), and all cultures. When any group is discriminated against, members of that group, if disabled, sustain a double disadvantage. Human rights are indivisible.

Starting with the report of the Commission on Emotional and Learning Disorders in Children (the CELDIC Report 1970) there were, during the Seventies a number of searching studies, symposia, conferences and reports which focussed on disabled persons. Examples are: *Health Security for British Columbians* (Richard G. Foulkes 1973); the *Ontario Report of the Health Planning Task Force* (The Mustard Report 1974); *Canadian Study of Hard of Hearing and Deaf* (Graeme Wallace 1973); *Vision Canada* (Cyril Greenland 1976); *A Hit-and-Miss Affair* (Joan C. Brown 1977); *Personal Social Services for the Handicapped* (A. Philip Hepworth 1977), the *Livre blanc du Québec sur la Proposition de politique à l'égard des personnes handicapées* (Lazure Report 1977), and others which are cited or reflected throughout this volume.

The Canadian Conference of (federal and provincial) Ministers of Health and its related Advisory Committees of officials, produced throughout the Seventies a series of expert state-of-the-art reports on various health problems and developed federal/provincial strategies for addressing these problems, relating to the planning, organization, financing, delivery and standards of health care services. Concerns relevant to disabled persons have included, *inter alia*, cardiac care, care of the newborn, speech pathology and audiology, cervical and breast cancer, occupational pneumoconiosis, hypertension, environmental and occupational health and others.

Also during the Seventies, a major federal/provincial Social Security Review led to a more critical examination of those in the population with employment handicaps, and to improved income security and work incentive programs, as well as to the development of a federal Social Services Bill. Although that Bill was not enacted, it provided the first framework for supporting a comprehensive range of social services within the provinces and the territories, and stimulated provincial activities in the direction of more integrated, comprehensive services to individuals and families.

But the lag between the range, quality, organization, and delivery system of social services, compared with the highly developed health services system, remains an outstanding problem, confronted daily by disabled persons, chronically ill persons and their families. Closing the gaps is a major challenge for the Eighties. In Canada the goal of integration and mainstreaming requires extensive inter-jurisdictional cooperation and dovetailing of sectoral initiatives in education, health, social services, income support, transportation, communications, housing, public works and others so that disabled persons who benefit from progress in one sector are not continually frustrated by newly-experienced barriers in another. The challenge is heightened in times of constraint.

The media in Canada are beginning to assist society in knowing and understanding the realities of living as or with a disabled person. This is evident in the improvements in the quantity and quality of investigative journalism and broadcasting. The Canadian Human Rights Commission (1979) recently found that a large majority (80 per cent) of respondents to a survey of knowledge, attitudes and practices concerned with discrimination were willing to pay for special civic measures, such as ramps (curb cuts) at street intersections to provide better access for handicapped persons.

Within medical schools formerly taboo topics such as sexuality are being considered and discussed in relation to very specific chronic conditions and disabilities. Voluntary organizations are producing and distributing information to their members and the public, to reduce individual doubt, guilt and clumsiness, and to provide guidance on intimacy and responsible sexuality for disabled and chronically ill adults with special needs and sexual handicaps specific to particular disabilities.

Defining the Disabled

The United Nations *Declaration on the Rights of Disabled Persons* (1975) defines a disabled person *any person unable to ensure by himself or herself wholly or partly the necessities of a normal individual and/or social life, as a result of a deficiency, either congenital or not, in his or her physical or mental capabilities.*

A document prepared for the World Health Organization, as part of the ninth revision of the International Classification of Diseases, (Philip H.N. Wood WHO/ICD9/REV. CONF/75.15) confronted the task of classifying impairment, disability and handicap and attempted to reconcile these concepts with the ICD and provided the following definitions:

> *Impairment is a generic term that embraces any disturbance of or interference with the normal structure and functioning of the body, including the systems of mental function.* It is characterized by a permanent or transitory psychological, physiological, or anatomical loss or abnormality, and includes the existence or occurrence of an abnormality, defect, or loss in a limb, organ, tissue, or other structure of the body, or in a functional system or mechanism of the body.

Disability is the loss or reduction of functional ability and activity that is consequent upon impairment. It is characterized by excesses and deficiencies of behaviour and other functions customarily expected of the body or its parts. It involves functional limitation and/or activity restriction. *Handicap is the disadvantage that is consequent upon impairment and disability.* It represents the social and environmental consequence to the individual stemming from the presence of impairments and disability.

Handicaps are not characteristics of individuals but are socially defined, hence the concept of "normalization", as developed by Wolfensberger in Canada in 1972, places an onus on the adaptations of the social and physical environment to the requirements of the disabled person.

Most definitions are operational, developed for particular administrative purposes. Most include a reference to limitation of function and/or to activity restriction such as ambulatory disabilities, sensory loss of hearing or sight, communication and coordinational disabilities or disabilities (infirmities) associated with aging, such as those reducing mobility, coordination, flexibility and perceptiveness.

Other factors which may be taken into consideration are severity, duration, transience, permanence or reversibility, progressivity or stabilization. A definition developed for the OECD Social Indicators Development Program (1976) was a simple one based on functional limitation on a range of daily activities, regardless of the origin or underlying major condition.

There are persons without organic defect or impairment who cannot function because of disordered thought or feeling in low self-esteem or what has been termed "learned helplessness". On the other hand, there are persons with severe or multiple impairments, arising from a variety of conditions, who exhibit remarkable stamina and who are high level performers.

Disabled persons will attest to the fact that they are not ill or diseased and do not wish to be exempted from the normal socioeconomic and cultural roles of other citizens. On the other hand, many people with diagnosed illnesses have no functional impairment and are not in that sense disabled. Yet they cannot be excluded from a composite picture, because their functional abilities may depend significantly to the degree to which their medical, nutritional, pharmaceutical, psychosocial and other needs are recognized and satisfied at various stages in the progress of their disease.

Counting Disabled Persons

The estimated number of disabled persons in Canada varies according to the definition of the term "disabled", the method(s) used to collect data, the purpose and interpretation of the data and the calendar date.

The Canadian Sickness Survey of 1950-51 was the first nationwide survey of the population. Estimates based largely on that survey were used by the Royal Commission on Health Services, as was a table in the status report on "Legislation, Organization and Administration of Rehabilitation Services for the Disabled in Canada, 1970". That table, reproduced by the United Nations in its 1976 Report, *Comparative Study on Legislation, Organization and Administration of Rehabilitation Services for the Disabled,* was the most comprehensive one among the countries dealt with. Nevertheless, it gave a far from complete picture of the dimension of the problem.

A World Health Organization International Collaborative Study published in 1973 included data from five sampling areas in Western Canada. Estimates of Canadians suffering from chronic disease, physical disability or restriction in activities of daily living have been derived from this Household Survey. Estimates based on that survey for Canada in 1979 would suggest that 2.0 million persons or 8.7 per cent of the total population could be counted as disabled. An additional 3 million persons are identified as having an impairment or chronic condition without restriction of their normal daily activities.

This compares with the Government Social Survey of the Handicapped and Impaired in Great Britain in 1971, which found a prevalence rate of 85.02 per thousand or 8.5 per cent disabled, with 16.6 per cent of that group severely disabled. Two-thirds of the severely disabled were found among those aged 65 and over, with arthritis, stroke and circulatory disorders as the principal underlying conditions.

Still other sources of information are the administrative records and profiles of users of various programs and health registers of which the best established is the British Columbia Health Register.

A current nationwide composite picture of disabled persons in Canada will become available during 1981 when we obtain the results of the *Canada Health Survey*, carried out during 1979-80 on a national sample of 12 000 households. This information will include details regarding health care utilization, accidents, drug use, activity limitation, dental, hearing-and vision impairments and chronic conditions. These variables will be cross-classified by various social, economic and demographic variables. Lifestyle characteristics will also become available for the first time.

Health and Welfare Canada has produced a paper entitled "A Composite Picture of Disabled Persons in Canada" (Walker-McWhinnie) which comments on the extent and impact of disability in Canada, based on characteristics of the disabled population defined in accordance with the OECD criteria and the utilization of services and programs in Canada.

Their calculations for 1979 reveal a global estimate of 2.3 million disabled persons or 9.8 per cent of the population, of whom 275 000 or 1.2 per cent of the total population are in institutions. Their figures show a slightly higher percentage of disabled males (10.8 per cent) than females (8.9 per cent) for all ages combined. While any disability limits the kind or amount of work a person can do or limits the individual in some other activity of daily living, the majority of disabled persons is experiencing minor limitations in certain of their daily activities while leading otherwise normal lives.

For those classified as disabled, 1.4 million are of working age, of whom 45 000 are in institutions, 20 000 in sheltered workshops, but the majority, or 1.37 million, are in the community. Of these, 600 000 are limited in their principal activities. The number of children aged 0-14 who are disabled to a degree which restricts their daily activities is estimated at 250 000. Approximately 6 000 are in institutions for emotionally disturbed, 18 000 in institutions for the mentally retarded, and more than 7 000 in institutions for physically handicapped children.

The Ontario Ministry of Health has commissioned an omnibus survey of the physically handicapped persons of Ontario. The Levy-Coughlin Partnership is now in the process of compiling and analyzing data from the survey and is expected to provide a forecasting model for the next 10 years, in Ontario.

Access to Education

The International Covenant on Economic, Social and Cultural Rights was acceded to by Canada in 1976. Article 13 of that Covenant provides that the States Parties recognize the right of everyone to education and that primary education shall be compulsory and free to all.

Canada is a country whose population enjoys one of the highest educational attainments in the world. We tend to take for granted free, universal, compulsory elementary and indeed, secondary school; moreover, 60 per cent of high school graduates enter a post-secondary institution. Disabled persons have not shared sufficiently in our educational attainments. Professor J.A. Clarence Smith reveals in his comparative study on "The Right to Education", that in about half our Canadian provinces there still exists an exception from the right to attend school, in the case of those who are deemed unable by reason of physical or mental handicap to profit from instruction.

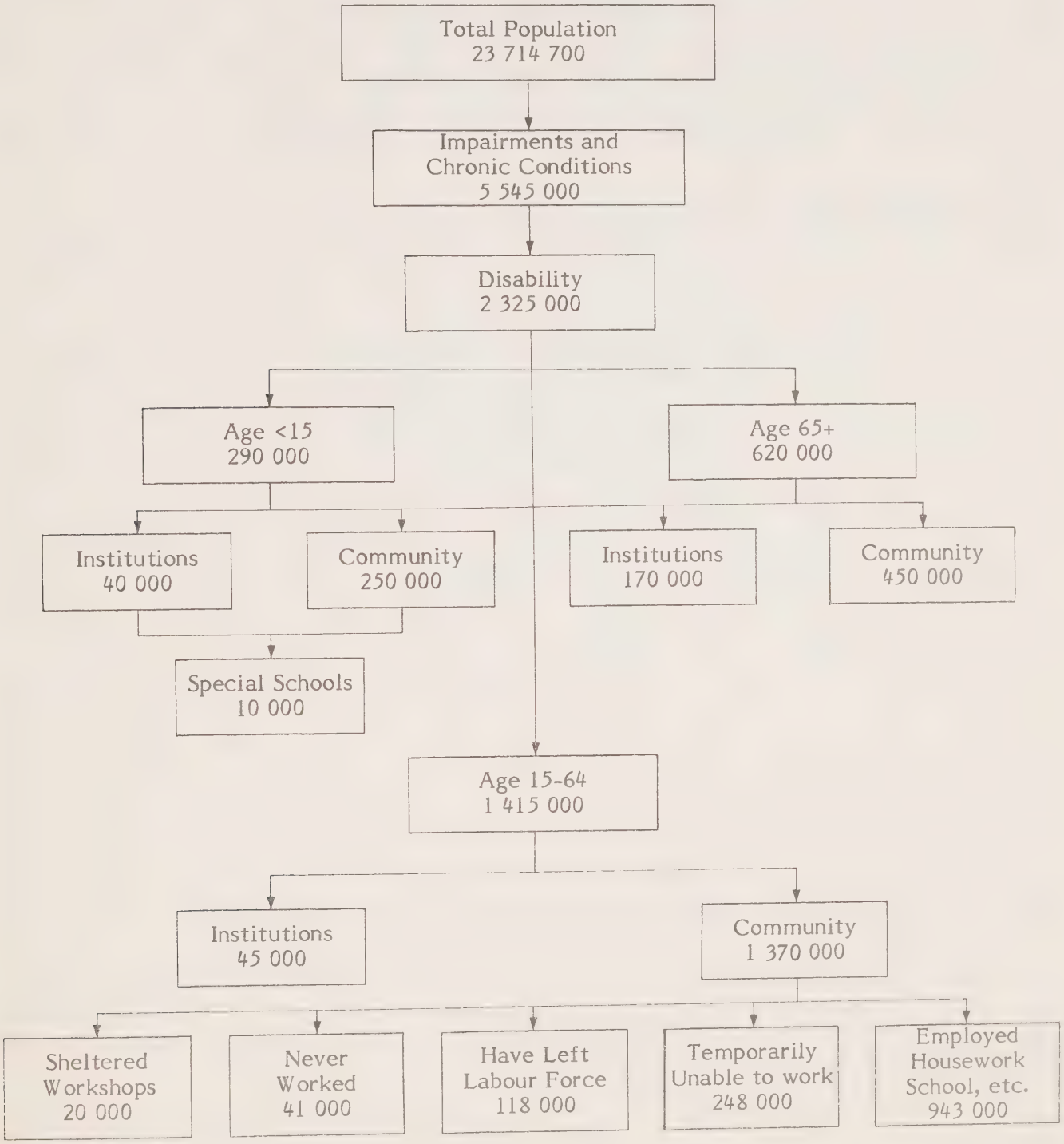
Permissive legislation which empowers, but does not make mandatory, the establishment of special education may further exclude or delay education for disabled children. In a few provinces the school authorities subsidize privately-run classes for handicapped children. In the Seventies, legislation was in progress in various provinces to impose an obligation to provide instruction for physically and mentally handicapped children or for persons requiring special programs for their education.

Considerable progress has been recorded in the integration in part or whole of children into regular classrooms and schools. As integration takes place, it becomes more difficult to record the numbers of exceptional children in the school system. Across Canada there are currently about 200 000 children enrolled in special education classes for children with some learning disability.

Education is under provincial jurisdiction and we do not have in Canada a model bill which provinces could adopt or adapt to provide universal, free, appropriate publicly-supported education for all children regardless of the child's mental, physical or emotional disability or impairment. In the United States, the *Education for All Handicapped Children Act* (1975) invited state governments to claim 40 per cent of the additional cost of providing every child between the ages of three and 18 with "free appropriate public education". We do not have the same federal mechanisms in the field of education as the United States. The interprovincial Council of Ministers of Education is one body which could address Canadian problems of access to education for disabled children.

Some specific interprovincial cooperation has been undertaken in regard to the education of visually and aurally handicapped persons. (In 1976-77 there was a total of 3500 such students enrolled in schools for the deaf and the blind in nine provinces). An agreement was made among the four Atlantic Provinces in January 1975 to set up an "Atlantic Provinces Special Education Authority" whereby special resources were to be established to receive children and young persons to age 21 who live in areas where suitable provision is not made by the local school board. However, issues relating to the isolation and segregation of children with sensory disabilities have not been resolved.

Distribution of Disability in Canada, 1979



**Global Estimate of Disability in Canada*
by Age and Sex, 1979**

Total Population of Canada, 1979: 23.7 million

THOUSANDS

		< 15		15-64		65+		All Ages	
		Number	%	Number	%	Number	%	Number	%
in households	Male	150	5.2	740	9.3	250	26.5	1140	9.7
	Female	100	3.7	610	7.7	200	16.1	910	7.6
	Total	250	4.5	1350	8.5	450	20.6	2050	8.6
in institutions	Male	23	0.8	30	0.4	75	8.0	128	1.1
	Female	17	0.6	35	0.4	95	7.7	147	1.2
	Total	40	0.7	65	0.4	170	7.8	275	1.2
Total	Male	173	6.0	770	9.7	325	34.5	1268	10.8
	Female	117	4.3	645	8.1	295	23.8	1057	8.9
	Total	290	5.7	1415	8.9	620	28.4	2325	9.8

(Note: %'s represent proportion of total population for each age and sex group.)

*An important observation is that even though the majority of disability in terms of numbers is found in the working age population, a much greater proportion of the elderly are disabled. Furthermore, most of those identified as disabled in the age group 15-64 are found at the older ages, mainly between ages 55 and 64.

A recent paper by S. Perkins (1979) has stressed the urgent need for a Canadian research and development focus on special education to develop necessary curriculum materials. He proposes that regular classroom teachers and principals be given adequate "in-service" education and that this be part of their certification requirements so that they will gain knowledge, competence and motivation to implement mainstreaming where appropriate. Perkins proposes periodic developmental surveillance and provisions for children under five with special educational needs. Future innovations in special education, he notes, must include parents, students, and community groups so that the "correctly proclaimed attitudes" will be translated into everyday behaviour.

The Canadian Commission on the International Year of the Child recommended that free educational services from pre-school to the completion of secondary school must be available to all children in Canada, regardless of geographic location, socioeconomic status or disability.

Cyril Greenland has pointed out in his study of the visually impaired "Vision Canada: The Unmet Needs of Blind Canadians" that the relationship between quality and duration of educational services determines success or failure. Statistics on the number of handicapped students who proceed to post-secondary education are lacking, but there has been a noted increase in registered blind persons in universities and colleges. In the mid-Seventies, when technical and mobility aids became more available, there were 280 blind students enrolled.

Graeme Wallace's study in 1973 "Canadian Study of the Hard of Hearing and Deaf" revealed that of 675 deaf students over the age of 16 enrolled in secondary school in 1972, fewer than five per cent proceeded to post-secondary education. Moreover, he noted that departments of Special Education in Canadian universities have generally not been involved in education of the deaf and lack expertise.

While access to appropriate education may not be a sufficient condition for integration and mainstreaming, it is certainly a *necessary* one.

Access to Employment

The employability of persons, including disabled persons, is dependent on three factors - the availability of employment, the availability of the person for employment and the possession of skills and competence to meet the employment requirements. In the case of disabled persons, several additional factors may be present - (a) stereotyped or prejudiced expectations which may affect recruitment or hiring; (b) the necessary education, training or experience may have been far below the person's potential and act as a barrier to effective competition or performance; and (c) special aids in mobility, transportation, access to buildings, technical aids to enhance capabilities or ergonomic adjustments of the work environment may be necessary.

There is considerable evidence and concern that in Canada, as elsewhere, disabled persons are unemployed or underemployed at a rate far in excess of the normal adult population. This occurs despite a range of services which has been developed to improve the employment capabilities and prospects by the provinces and the Federal Government, described elsewhere in the volume.

It is clear that despite these programs and the advances in human rights, more coordinated efforts are required to ensure a critical mass impact on the problem. In 1978, the Federal Government announced its policy to promote and provide equal access to employment and career development in the Federal Public Service for physically disabled and mentally retarded persons and to ensure progress in the elimination of any barriers.

Canadian experience has generally not favoured the establishment of quotas as they tend to reinforce stereotypes and the *minimum* frequently becomes the *maximum*. Nevertheless, target goals for improvement from the *status quo* are generally approved.

Affirmative action programs are designed to provide catching up opportunities for persons who as a group have experienced systemic discrimination. These programs may be voluntary as encouraged by the Canadian Employment and Immigration Commission; may be ordered by a Human Rights Commission to equalize opportunities for a group once discrimination has been established, or may be a mandatory part of human rights enforcement as occurs in at least one province in Canada.

Access to Health Care for Disabled Persons

Since 1971, when it became nationwide, Canada's health care insurance system has succeeded in bringing the benefits of modern medical knowledge, skills and technology to all Canadians. Canadians now enjoy one of the highest standards of medical and hospital care in the world. In Canada all medically-required services of medical practitioners and all necessary hospital services associated with diagnosis, treatment and rehabilitation are available under the Medical Care and Hospital Insurance Programs. Provincial health insurance plans must provide such services to meet with the federal criteria of universality, comprehensiveness of range of insured services, accessibility to services uninhibited by excessive user charges, portability of benefits and non-profit public administration.

Since 1977, under the *Federal-Provincial Fiscal Arrangements and Established Programs Financing Act*, substantial federal contributions for the insured services formerly cost-shared are now made under a block fund formula (tax transfer and cash payments tied to GNP). The new arrangement took into specal consideration the needs for extended care of the chronically ill or disabled.

The 1977 legislation requires that provincial authorities furnish to the Minister information, including that needed for determining whether the plan satisfies the above-noted criteria. A Canadian Health Services Review was established in 1979, headed by Justice Emmett Hall, who as chairman of the Royal Commission on Health Services, was the architect of our medical care system and champion of a Health Charter for Canadians. This Review is examining the current operation of Canada's health care system in relation to the federal criteria and the extent to which the goals set forth in the Health Charter for Canadians are being met. Submissions have been received from various constituencies, including providers and consumers.

The Canadian Medical Association submission to this Review states: "The physician should have the right to choose his or her patient, subject to humane considerations and to choose the type and location of his practice". Disabled consumers concerned about psychological barriers they have to overcome may wonder who are the likely rejects and what recourse is available to them. In selecting their offices, physicians also should give more consideration to physical access to disabled persons. In many areas of Canada as well, public transportation of disabled persons to and from medical facilities is inadequate.

Access also depends on the availability of skilled personnel, which in turn depends on training, the appropriate distribution of health care workers and the balance of specialists and generalists and allied health workers. An explosion in the training of health disciplines has taken place in the past 12 years, with a growth in qualified persons, institutions and in the range of skills and disciplines. Major changes have reflected the newer technologies as well as response to perceived needs for new levels of care services, such as mental retardation

counsellors and child care workers. An expansion of training facilities in the community colleges has produced a new range of technicians, technologists, and rehabilitation workers in the health field, whose first graduates emerged in 1970 or later.

According to the Canadian Hospital Association, maldistribution of health personnel currently exists with respect to nursing, neonatology, (new specialty of the Seventies) and anaesthesiology. Canada is experiencing an acute shortage of occupational health and safety professionals and technicians, and a shortage of training centres to produce them. According to the Canadian Association of Physical Medicine and Rehabilitation, shortages which exist in the rehabilitation professions include rehabilitation nursing, physiotherapy, and orthotics, vocational counselling, medical social work, rehabilitation psychology, teachers of the handicapped and rehabilitation engineering.

There are today an estimated 170 medical specialists in physical medicine and rehabilitation, their number having trebled since 1962. Several problems in the effective deployment of this pool of skills and knowledge have been indentified. An important one is the lack of integration of these specialists into the mainstream of medical care. The marginality of the disabled and chronically ill citizen may in fact be mirrored in the marginality of the helping professions who serve them.

Canadian, indeed North American, health care poses an artificial barrier between acute, curative, episodic, clinical medicine and hospital care and the range of preventive public health/community health services. Rehabilitation services have frequently found themselves caught in between. The advent of medical insurance has only partly solved the problem. Rehabilitation Services were historically provided on a categorical basis to veterans until these services became integrated and opened to the general public. Some centres were established for specific categories of disabled. Gradually rehabilitation services have become integrated into general hospitals but often they run counter to organized specialities and become a catch-all for rejects and failures of other services, rather than an essential component of a program based on the concept of continuity-of-care.

Moreover, Workers' Compensation programs which are often comprehensive and sophisticated are still separate from the general hospitals and rehabilitation centres. The Association of Physical Medicine and Rehabilitation would like to promote a much fuller integration and rational deployment of facilities and personnel, as well as the extension of the rehabilitation team approach to the reduction and control of the burden of all long-term disabilities and disabling conditions.

Organized Home Care which orchestrates a range of needed therapeutic and home-maker services experienced a slow development in the Sixties and early Seventies, despite excellent demonstration and established programs in various centres across Canada. With federal and provincial encouragement, Home Care is showing signs of becoming an accepted part of modern health care organization, bringing needed services to patients in their own home and reducing or averting hospitalization or institutionalization.

For independent living, attendant care still remains outside the health care system but needs to be addressed in a spectrum of available personal services.

Access may also be affected by user fees which are applied in Newfoundland, New Brunswick, Québec, Ontario, Alberta, and British Columbia. Another practice which affects access is "extra billing" by physicians who require their patients to pay more than the provincially agreed fee for service. The Health Services Review is examining this problem.

Conclusion

The entire area of rehabilitation, of integration and normalization of Disabled Persons in Canada is relatively new, with major advances being contemporary of this publication's audience. The very dynamism of rehabilitation services makes it almost impossible to freeze detail for close scrutiny. However, this volume is intended to introduce the general reader to some of the issues, developments, problems and prospects of Disabled Persons in Canada. It also represents the undertaking of a commitment to the integration of disabled persons into the mainstream of Canadian society as full members, shaping and benefitting from our society. Disabled persons, whether their disability occurs before or at birth or at any stage in the life cycle should have the fullest opportunity to acquire or recover competence and to exercise it.

HISTORICAL HIGHLIGHTS

Long before the arrival of European explorers, the Aboriginal inhabitants of North America practised medicine according to their beliefs as to the cause of disease - often attributed to the supernatural. Their ability to care for the aged and infirm was tempered by the harsh realities of their environment and their constant struggle for survival. None the less, the Aboriginal Canadians are known to have set fractured bones, cauterized sores and performed surgery. The shaman, or medicine man, practised psychological, magical, surgical, physical and herbal forms of healing, even exorcizing "evil spirits" on occasion.

In the years immediately following the founding of Québec City in 1608 by French colonizers, handicapped persons who could not be cared for and protected by family or friends were sent back to France, where they could be accommodated according to the standards of the time. The European population of New France in 1666 was only 4000 and the tiny community could not support long-term social services.

And yet, as the colony of New France, later to be known as Lower Canada and the Province of Québec, grew to more than 60 000 population in 1763, attention turned to meeting social needs. For traditional and cultural reasons, the Roman Catholic Church provided the institution through which this early Canadian society met many of its social obligations. The Church was to serve a similar role during the early British regime beginning in 1763 and remained an important administrator of hospitals, schools and social service institutions until the "Quiet Revolution" of 1950 in Québec.

Early Priorities

During the 18th Century and through most of the 19th Century, Canadian society preoccupied itself mainly with the mentally handicapped. The harsh reality was that persons born in Canada at that time with serious congenital defects or who were physically handicapped

in later age by illness or accident, had a poor life expectancy. While we have occasional examples of rough wooden or metal prostheses from this period, they are more a rarity than the rule.

In 1717, Bishop de Saint-Vallier of Québec City ordered construction of a small house next to the Hôpital général de Québec to shelter repentant prostitutes, with an upper floor for insane women. In Montréal, in 1747 on what is now Youville Square near the original port, the Sisters of Charity, or Grey Nuns as they became known because of their religious habits, founded a hospital for "the sick, aged, incurable, insane and orphaned".

In the late 18th Century, the Legislative Assembly at Québec City authorized the expenditure of generous funds for the maintenance of insane persons in the province. In that decision, by which a per diem allowance of One Shilling Eight Pence was to be paid for each insane person housed in institutions administered by the Grey Nuns in Québec City and Montréal, and in Trois-Rivières by the Ursulines Order, we see the first evidence of a direct payment by a Canadian provincial government - for Québec was a province of the British Empire - to meet the needs of the mentally handicapped.

For comparison with today's values, the diary of Montréal banker-brewer John Molson notes, in 1780, that One Shilling Eight Pence was the cost of a quarter lamb; five dozen eggs cost three and a half pence less, and 13.6 kg of beef, the cost of which today would dent any budget, could be bought then for only Three Shillings Six Pence. An employee of Molson's Brewery, who was worthy of attention in Molson's diary, earned a total of Twenty Shillings monthly (The Barley & The Stream, p. 40), considerably less than the allowance voted by the legislature.

Along with the voting of funds came the need for government monitoring and, in 1824, a report submitted to the Legislature described conditions at the three funded institutions. According to this document, known as the Richardson Report, the Québec and Montréal institutions appear to have been well-run and cells for non-violent persons were "clean and neat". And yet, the report felt that conditions would "preclude the possibility of treatment of persons confined therein upon a regular system with a view to cure". The regular cells at Trois-Rivières were described as "resembling places for criminals" and were said more likely "to produce or increase insanity rather than cure it".

19th Century Expansion of Services

The early 19th Century saw the provincial governments becoming more actively involved in the funding and direct administration of institutions for the mentally disabled. This involvement, first seen in 1835 with the opening of a provincial hospital for the insane at Saint John, New Brunswick, matched the population growth of the provinces themselves and the expansion of Canada westward after the creation of the Dominion of Canada in 1867, with Québec, Ontario, Nova Scotia and New Brunswick joining in Confederation, to be followed in the late 19th and 20th Centuries by the balance of Canada's now 10 provinces.

Cholera and smallpox epidemics in Canada during the 18th and 19th Centuries were often fatal; most survivors were totally incapacitated and, in 1834, the legislature of Upper Canada authorized public support to families impoverished as a result of death or disability of the breadwinner due to cholera.

Confederation, through the *British North America Act*, confirmed that health care and social services remained the responsibilities of provincial governments; the Federal Government, its capital located at Ottawa on the border between Ontario and Québec, remained responsible for the care of Indians, mariners, Eskimos (now called Inuit) and veterans.

Public Pressure for Special Education

New services for the disabled, regardless of disability, generally has resulted from public interest and pressure. While 18th and 19th Century Canadian society satisfied itself with institutionalizing and occasional cure of the mentally disordered, adding to them the severely mentally retarded, the late Victorian and the Edwardian Ages saw a flowering of community-sponsored groups and agencies in Canada to provide moral and financial support to the disabled, notably to the deaf and the blind.

As early as 1856 in Montréal, Miss Harriett McGann, later Mrs. Ashcroft, superintendent of The Mackay School for the deaf, conducted religious meetings for the Deaf in a private home. Also in Montréal, the Institut Nazareth was founded in 1861 by Father Rousselot, to care for French-speaking blind children. The Institut, soon taken over by the Grey Nuns, was modelled on Paris' Institut national, founded in 1784, a student of which was Louis Braille. In 1975, the Institut Nazareth merged with a later Montréal institution, the Institut Louis Braille, founded in 1953, and they now continue their work in modern quarters at Longueuil, across the St. Lawrence River from Montréal.

Sir Frederick Fraser of Halifax started the Halifax Asylum for the Blind with public and private support in 1871. The Halifax School for the Blind, as it became known, established a circulating library for the blind of all four Atlantic provinces, towards the end of the 19th Century. Sir Frederick Fraser also is credited with pressuring the then postal authorities to grant franking privileges to embossed literature intended for use by the blind; this action in 1898, by the Government of Canada, was the first such action in the world.

In Ontario, the Ontario School for the Blind was established in Toronto in 1872. Five years later, the Evangelical Church of the Deaf was founded there. First known as the Toronto Mission to the Deaf, members said it should be "of the deaf" because "it has been funded by ourselves, the deaf people of Toronto, for the deaf, with hardly any help from hearing people". Collections at services and other donations did help, however.

A Canadian, Alexander Graham Bell, who invented the telephone in 1876, was a major influence on development of special education for the deaf in North America. Through major grants, he contributed to educational programs, but his strong views, especially on banning gesture language, led to a major clash with E.M. Gallaudet, President of the National Deaf Mute College (Gallaudet College) at Washington, D.C., who taught the oral-manual method. The Bell-Gallaudet philosophic clash had considerable impact on education for the deaf and lasted through succeeding generations of teachers through the mid-20th Century. (A major technological innovation being shown at the World Congress on Rehabilitation at Winnipeg, Manitoba, in June, 1980, is the Bell Telephone "Visual Ear", a compact piece of equipment which allows deaf persons to communicate in writing over telephone lines; Bell Canada, its affiliate Northern Telecom and Bell Northern Research, and the National Research Council of Canada have made innovations in assisting the deaf to communicate.)

These early efforts with regard to blindness and deafness, were precursors of special education. Also, at the turn of the century, there were educators who believed that the mentally deficient could be helped through educational methods, and this was one of the reasons for building special facilities for the mentally deficient, the first of which was "The Asylum for Idiots and Feebleminded" built at Orillia, Ontario, in 1888. Unfortunately, these facilities became what has since been termed "human warehouses".

A good deal has happened as a result of the late 19th Century and early 20th Century efforts in intelligence test development which stimulated special education for the mentally

deficient. Special classes for mildly retarded persons (who represent the largest single disability group within school-age population) were well under way before the rehabilitation movement as we know it today gained momentum.

Volunteer Organizations

The late 19th and early 20th Century witnessed the creation of several major volunteer organizations.

The Canadian Red Cross Society was founded in 1896 by Dr. George Sterling Ryerson, and the Victorian Order of Nurses was founded in 1898, by Lady Aberdeen, wife of the then Governor General of Canada, following a public meeting in Ottawa at which support for the concept was expressed by Prime Minister Sir Wilfrid Laurier and Minister of the Interior Clifford Sifton.

Organizations to help the deaf and the blind were being created in eastern Canada to provide schooling during the latter half of the 19th Century, but it was closer to the turn of the century that concerned public interest groups sprung up to assist them more generally. In 1890, the Associated Blind, a cooperative of blind persons in Toronto, formed to encourage blind home workers and to assist in the sale of their products; in 1908, the Montréal Association for the Blind was organized to provide a library, as had been opened in Toronto the previous year, as well as a broom shop to provide sheltered employment; in 1911, the Montréal Association for the Blind opened a school for English-speaking blind children of the city; the Western Association for the Blind was founded in 1913 at Vancouver, British Columbia, successfully lobbying the provincial Department of Education to assist blind students financially; in 1914, the Maritime Association for the Blind was incorporated at Halifax, Nova Scotia, and, in the same year, the Ottawa Association for the Blind was created to provide industrial training and employment. One of the earliest public interest groups to challenge the services for the blind was the Ontario Association for the Blind, formed in Toronto in 1916, one of its declared aims being investigation into the management of the Ontario School for the Blind.

It was immediately following World War I in 1918 that the Canadian National Institute for the Blind was founded by blind veteran E.A. Baker, to provide a national voice for blind persons and to provide employment and other services.

Also in 1918, the Canadian Mental Health Association and the Great War Veterans' Association were formed. The War Amputations of Canada followed in 1920, the same year in which the Canadian Welfare Council, now known as the Canadian Council on Social Development, was founded.

Toronto's world-renowned Hospital for Sick Children was founded in 1875, gaining fame in the early part of this century for its pioneering work with physically handicapped children, and, in 1922, the Ontario Society for Crippled Children was formed in Toronto; by 1932, the Society cared for almost 5000 children and by 1937 the caseload had increased to 23 000 children. In February and March respectively of 1925, the philantrophic order of Shriners opened hospitals for crippled children in Montréal and Winnipeg. Other Canadian volunteer agencies such as the Canadian Red Cross and the Salvation Army also introduced hospitals which eventually became part of the medical systems in the various provinces.

Workers' Compensation

Another development of social life had been making its needs felt throughout the century - organized labour. The needs of injured workers became a factor for compensation and training assistance in the very earliest part of this century.

The first Ontario Workmen's Compensation Law came into force on New Year's Day of 1915, but had its base in studies dating to 1910. At the outset, cash settlements for wage loss was the only factor, but provisions for medical aid and for rehabilitation were added in 1917 and 1924 respectively. By 1931, all the provinces except Prince Edward Island had enacted a law based on the Ontario statute. Prince Edward Island enacted its own Workmen's Compensation legislation in 1949. In 1976, in recognition of the changing role of women in the labour force, Prince Edward Island changed the word "workmen" to "workers", as have several other provincial boards. The role of workers' compensation boards in rehabilitation has been such that Ontario's Vocational Rehabilitation Directorate of the Workmen's Compensation Board, established in 1939 with one counsellor, numbers 120 specially-trained vocational rehabilitation counsellors.

"Consumption"

It is difficult for most Canadians today to realize that tuberculosis, or consumption as it was then known, was generally fatal to our Victorian forebears and was held in much the same awe as the public views cancer today. It was the major disease of the early 20th Century and, as late as 1953, a total of 17 654 tuberculosis patients were being treated in special sanatoria. Of 1761 incapacitated husbands whose families benefited from the Mother's Allowance program in Ontario in the 1930's, almost a quarter of them suffered from tuberculosis. Today, by comparison, only some 3000 Canadians are being treated annually, at their homes, with effective drugs.

Which opera lover has not felt compassion for the heroine of Verdi's "La Traviata" as she hides the fact of her "consumption" from her lover and retreats to a poor and lonely deathbed? The fight against tuberculosis began in earnest with the isolation of the tuberculosis bacillus in 1882 by Robert Koch. Two years later, Dr. E.L. Trudeau, a survivor of the disease, founded an open-air treatment method at the Adirondack Cottage Sanatorium in Upper New York State. The first Canadian sanatorium was opened at Gravenhurst in Ontario with 25 beds, and in 1900, the Canadian Tuberculosis Association, now known as the Canadian Lung Association, was founded. This Association, working with public subscriptions, built sanatoria across Canada, encouraging provincial governments to take them over. From 1927, under the slogan "A Matter of Life and Breath", the Association has raised its revenues from annual Christmas Seal campaigns, which are still carried on today, to finance rehabilitation, education and medical research in all fields affecting respiration.

A number of truly great Canadians, among them Dr. Eric Found of Prince Edward Island, a former president of the Canadian Tuberculosis Association, were associated in the fight against this disease, now almost entirely controlled, thanks to preventative health measures, mobile X-ray clinics, free testing of school children, and through ambulatory treatment with modern drugs.

The Halifax Explosion - A Civilian Disaster

World War I provided a focus for attention on civilian physically handicapped persons when the S.S. "Mont Blanc", a French merchantman carrying explosives, was accidentally struck by another vessel December 6, 1917, in the Port of Halifax. The resulting explosions levelled the port and surrounding urban area. More than 1700 were killed in the explosion and thousands more were wounded.

By federal and provincial legislation, the Halifax Relief Commission was created in 1918 and over $27 million raised - $18 million from Canada, $4.8 million from Great Britain, $750,000 from the State of Massachusetts in the United States and $3.8 million through public subscription.

Funds were used to rehabilitate those injured and to pay pensions to those who could not successfully be rehabilitated. As late as 1976, a handful of survivors was still collecting pensions.

Veterans and Their Rehabilitation

While the marshalling of public health forces against tuberculosis was a key development for rehabilitation services in Canada, it is war, with its violence and aftermath of wounded and traumatized which, ironically but undoubtedly, contributed most towards the rehabilitation of disabled persons.

Many soldiers sent to Europe during World War I returned afflicted with tuberculosis and experimental programs were introduced at the Ste. Agathe des Monts, Québec, sanatorium in 1917; the program was successful and soon expanded, followed by increased public health service and resources in the prevention and treatment of the disease.

The Military Hospitals Commission was created in 1915 and a network of federal hospitals provided comprehensive treatment and rehabilitation programs to the extent possible at the time. The Federal Government, whose powers had been greatly enchanced during wartime, was able to assume a leadership role in assisting the returning veterans. In addition to building the hospitals, emphasis after 1917 was placed on vocational training, designed to return the disabled veteran to the labour market. Over 300 occupations were catalogued for which disabled veterans could be trained; placement of the veteran was a provincial responsibility.

Canada broke new ground, internationally in the field of rehabilitation, when the Military Hospitals Commission was reorganized in 1918 to become the Department of Soldiers' Civil Reestablishment.

Canada learned much from its experience with veterans of "The Great War" and, when war broke out again in 1939, the country was ready to plan for the return and rehabilitation of its soldiers once the hostilities ended.

On December 8, 1939, only months after war had been declared by Britain and her allies, a Cabinet committee was founded to report on problems arising from demobilization and rehabilitation of military personnel on cessation of combat. Following the election of 1940, a sub-committee was formed, comprising both civilians and civil servants, and a comprehensive plan was put forward; the plan included clothing allowance, rehabilitation grants, transportation, war service annuity, reestablishment credits, vocational training, university education, unemployment benefits, pensions, medical treatment, insurance, land settlement, reinstatement of employment, loans, and preference for public service jobs. The benefits became law October 1, 1941, under the Post-Discharge Reestablishment Order and its amendments, followed by considerable new legislation, including the *Department of Veterans' Rehabilitation Act*.

In 1946, Parliament passed legislation complementing the Order and amending some statutes regarding veterans and their rehabilitation; this legislation immediately after World War II became known subsequently as the "Veterans Charter".

Medical experience learned during the early veterans' rehabilitation period benefited the medical community at large, as well. In addition to full-time staff at Department of Veterans Affairs' hospitals, private doctors were encouraged to work part-time at the hospitals, expanding their knowledge in the field of rehabilitation, especially in the areas of paraplegia, arthritis, and in the study and use of the new "wonder drugs", ACTH and Cortisone.

Since 1916, the Federal Government maintained facilities for the manufacture, distribution and fitting of artificial limbs, free to veterans. Twelve centres were created after World War I and cases for prosthetic and orthotic devices increased sharply with World War II, to 35 000 in 1939 and to 123 000 cases in 1947.

The Rehabilitation Team

After World War II the veterans' hospital at Ste. Anne de Bellevue, outside Montréal, spawned a group approach to treatment and rehabilitation under the leadership of Dr. Gustave Gingras. The technique became known as the "Rehab. Team" approach and involved the person needing rehabilitation meeting in conference with a team including several specialists - a physiatrist, psychiatrist, psychologist, physiotherapist, occupational therapist, speech therapist, medical social worker, or employment counsellor, as required. The rehabilitation team was led by a physician, who outlined his or her diagnosis and called for the observations and recommendations of the team staff. This procedure also was being used effectively at the same time by the medical staff under Dr. A.T. Jousse at Lyndhurst Lodge, at Toronto, the first spinal cord rehabilitation centre in North America. The "Rehab. Team" approach has since become standard procedure.

Extending Services to Non-Veterans

Following World War II, facilities for rehabilitating the physically and the mentally handicapped grew nationwide. The Federal-Provincial Conference on Reconstruction, held in 1945, had discussed the concept of a national medicare scheme and, in 1948, the Department of National Health and Welfare established National Health Grants to assist provinces with extension of rehabilitation services, provision of rehabilitation equipment in hospitals and centres, and for training of medical personnel, including bursaries, and funding of training programs in P.T., O.T., S.T., and Prosthetics. Construction of facilities themselves was funded under a separate program, the Hospital Construction Grant.

In 1946, in one of the most gracious "beau geste" ever, the veterans themselves asked that these medical facilities be opened to civilians in need, as long as space was available and suitable facilities were not available elsewhere. Arrangements later were made between the Federal Government and appropriate provincial governments to provide these services where required; the practical element of this gesture is that it kept services going for the veterans returning for check-ups and follow-up treatment. Perhaps best known was the agreement between the Department of Veterans Affairs and the Canadian Paraplegic Association for the use of spinal cord injuries wards and prosthetic and orthotic devices for civilian paraplegics. Founded in 1945 by the late Lt. John Counsell and some 225 spinal cord injured veterans, the CPA in 1950 took over the Department of Veterans Affairs spinal cord injury facility in Toronto, Lyndhurst Lodge, to operate on behalf of veterans and civilians alike. The hospital, first opened by DVA in 1945, has since moved to new 106-bed facilities, and continues to provide leadership in spinal cord injury services both in Canada and abroad. Today, the Canadian Paraplegic Association maintains both its national and Ontario Division offices at the hospital, and provides paraplegics and quadraplegics with vocational and family counselling, including job placement, adjustment to a wheelchair, advice on housing and modifications to living accommodations, and representations to government and other agencies.

In Toronto, immediately following the war, the Ontario Society for Crippled Children began plans for the Centre for Crippled Children. The first residential training centre for persons with Cerebral Palsy opened in October, 1949, at Woodeden, Ontario, and Variety Village, a school for handicapped children, officially opened in Toronto the following month.

The first Easter Seal Campaign, raising monies for the rehabilitation of crippled children, was held in Toronto in 1947, with 50 volunteer "service" clubs participating. That year's "Timmy" show at Maple Leaf Gardens, a Toronto hockey arena, raised $138,396, creating a fund-raising model which is still used by many volunteer organizations today.

In 1962, a non-government coordinating organization for rehabilitation was created; it was the Canadian Rehabilitation Council for the Disabled (CRCD) and one of its key tasks was the coordination of the Easter Seal Campaign across Canada.

A Touchstone Conference

The need to plan new directions for rehabilitation led to the National Conference on Rehabilitation of the Physically Disabled in Toronto, in 1951, marking a milestone in Canadian rehabilitation history. The provinces were rightly reasserting their constitutional responsibility over health and social services. The conference, held in February, urged the continuing presence of the Federal Government in rehabilitation. It suggested a national program to be established in collaboration with the provinces and urged that a National Advisory Committee on Rehabilitation of the Disabled be created. The Advisory Committee coordinated national planning of Canada's modern rehabilitation program. Recommendations resulted in the establishment of the Civilian Rehabilitaiton Branch of the Department of Labour in 1951; appointment of a National Coordinator of Rehabilitation in 1952; coordination with the provinces of agreements for vocational training; Schedule "R" added in 1953 to the *Canadian Vocational Training Coordination Act* of 1942; the Medical Rehabilitation Grant of 1953; and the Medical Rehabilitation and Disability Advisory Service, begun in 1955.

The most significant initiative resulting from the conference was the Federal-Provincial Vocational Rehabilitation of Disabled Persons program (VRDP) authorizing the federal Minister responsible to enter into agreements with the provinces to help bring disabled persons back into the labour force. The program began by Order-in-Council in 1952 and was brought into legislation in 1961 under the *Vocational Rehabilitation of Disabled Persons Act*. The VRDP program enabled provinces to recover 50 per cent of their costs, including costs of a provincial coordinator and other staff, and support personnel.

Several other federal programs and initiatives served to complement and enhance VRDP. The *Technical and Vocational Training Act* of 1960, like VRDP, was a cost-sharing mechanism with provinces actually providing the training. Pensions under the Disabled Persons Allowances and Blind Persons Allowances of 1955 were administered by the provinces, with costs paid by the Federal Government; from 1952 to 1955, when it had introduced the first such legislation in Canada, the Province of Ontario carried 100 per cent of the costs of this program. The Special Placement Section of the National Employment Service became a key tool to assist in placing disabled persons in the labour force.

Among the provinces, Saskatchewan became the first to establish a vocational rehabilitation program for adults, in 1946. The Saskatchewan plan went so far as to provide a handicapped person with assistance in establishing his or her own business, and it took special notice of the needs of the Métis as a "socially handicapped" group. Saskatchewan offered its residents a comprehensive rehabilitation program before the Federal VRDP plan came into effect and has remained an innovator in services to its residents. Saskatchewan is best known in the social service field for providing the first medicare program in North America, in 1961.

The National Conference on Rehabilitation of the Physically Handicapped in 1951 was granted the official imprimatur of federal and provincial government sponsorship. The 1964 Federal-Provincial Conference on Mental Retardation did the same for mental retardation with equally effective impact.

Universal Medicare

The *Hospital Insurance and Diagnostic Services Act* of 1957 provided "free" (insured) treatment in hospitals and rehabilitation centres for handicapped persons, including both in-patient and out-patient services. This was a most important step in the evolution of Canadian rehabilitation - possibly as important as the VRDP.

The Canada Assistance Plan of 1966, enabled the Federal Government to share with the provinces certain services for the needy. The provinces determined priority and means of delivery, for services "having as their object the lessening, removal or prevention of the causes and effects of poverty, child neglect, or dependence on public assistance". By the standards of the 1960's, CAP was a success.

An integral part of the Canadian social security system is the Canada Pension Plan. The legislation was adopted in 1965, with the first retirement benefits being paid in January of 1967. Disability benefits, which first began in 1970, are payable to contributors whose disability is severe and likely to continue so as to prevent regular employment. Benefits also are paid on behalf of a disabled contributor's dependent children. In 1978, disability payments totaled $133,513,300, and disabled contributors' children's benefits totalled $21,540,600. In March of 1978, the average disability pension was $149.08.

The *Federal Medical Care Act* of 1966 paved the way for many services to Canadian disabled, as well as to all other Canadians. This legislation provided federal sharing of 50 per cent of the costs of insured medical care services provided by provinces.

By 1971 all the Canadian provinces had availed themselves of this legislation. Principal requirements were and remain that the provinces provide universal coverage of its population; comprehensive service, that is, all medically required services; public administration; portability; and reasonable access and uniform terms and conditions for all individuals.

Polio and Thalidomide

Two national health crises of the post World War II period brought the need for rehabilitation close to all Canadian families; the first was the polio epidemic of the early 1950's, and the second was the thalidomide tragedy of the late 1950's.

The polio epidemic struck fear in virtually every Canadian family, especially those whose children were of school age. The disease often hit children in their prime and fear did not abate until Dr. Jonas Salk invented the Salk oral vaccine in 1954 and work could get under way with a major immunization program. Millions of Canadians, particularly school children, were immunized in a massive public health program in both Canada and the U.S. This campaign was so successful that it virtually eliminated the dreaded crippler. Unfortunately, this has resulted in a casual and neglectful attitude in the public towards polio and the need to immunize against it, and polio is now returning as a health hazard in Canada.

The epidemic births of thalidomide babies beginning in 1958 in West Germany through 1961 in Europe, after use by pregnant women of a West German-made sedative, was a shocking accident. It was only in 1961 that a West German doctor isolated thalidomide as the agent, bringing the rate of incidence to a close in 1962.

Mental Health

The concept of rehabilitation for the mentally ill is essentially a product of the 20th Century and, more specifically, of the last half of this century. Efforts prior to that were more

in the traditional form of treatment and/or education. A pioneer in the use of electroshock, Dr. J. Ewen Cameron, founded the Allan Memorial Institute at McGill University, Montréal, in 1938, for the study of psychiatric disorders. Subsequent breakthroughs in medication and modern psychological-psychiatric-rehabilitation measures have changed the outlook completely for many psychologically disturbed persons whose condition is recognizable as being temporary or controllable, and who can be returned quickly to productive life.

In respect to the mentally retarded, as it has been in the case of the physically disabled, the distinctive feature of rehabilitation has been the multidisciplinary team approach to the application of medical, educational and behavioural theories and practices.

The gains in the field of mental retardation have been notable in the past 30 years. The founding of the National Institute on Mental Retardation in 1963 at Toronto with York University created the first University/Consumer national entity developed for disabled people in Canada. Major programs also have been established at several university centres, each becoming a centre of excellence for research, teaching and consultation: The Atlantic Research Centre for Mental Retardation, University of Saskatchewan's, Department of Pediatrics, University of Alberta, the British Columbia Mental Retardation Institute and Brandon University, Manitoba. During the 1960's, a movement to de-institutionalize the mentally retarded, many of whom had been living until then in enormous hospitals, gained major momentum. During the late 1940's and early 50's, families and friends of mentally retarded persons banded together to help each other and the mentally retarded. The first, the Parent's Council for Retarded Children, was incorporated at Toronto in September of 1951. This and similar groups evolved into the Canadian Association for Retarded Children, now known as the Canadian Association for the Mentally Retarded. Also in the late 1970's, a movement emerged of mentally retarded persons providing their own initiatives in self-help, public education and anti-discriminatory lobbying.

Parents also are continuing to help each other through the "Pilot Parents" program - a program whereby parents who already have raised or are raising a mentally retarded child come to the aid as counsellors of parents with young mentally retarded children. The program functions in both official languages, with counsellors working in couples to provide moral and practical support. Groups have been formed throughout Canada.

The Canadian Association for the Mentally Retarded, in 1971, in its "Plan for the 70's", unveiled a plan for establishment of "Com-Serv" experimental and demonstration projects in each of the 10 Canadian provinces. The Province of Alberta was the first to take up the challenge, in 1974, when it funded the Com-Serv Association of Southern Alberta; the Government of Canada and the Canadian, Alberta, Lethbridge (Alberta) and Foothills (Alberta) Associations for the Mentally Retarded also supported the project. Com-Serv provided a new way to help mentally retarded persons of all ages and their families obtain the services they require; it provides a central information source, a service coordinator who helps, on request, to find housing, employment, medical services, financial assistance, education, personal support services, and assists to arrange access to community recreation and leisure resources.

A second project, known as "ServCom Côte Nord" is under way in the North Shore area of the Province of Québec, operating in a francophone community. Momentum is growing for the program and plans for additional projects throughout Canada are under way.

In 1978, a dozen Albertans organized "People First", a self-help program for mentally retarded persons to achieve a voice in the community. Since its inception, "People First" has carried out an active information program, fighting discrimination against the mentally

retarded and against persons with cerebral palsy. Comprising some 20 members and two aides in April of 1979, "People First" has organized some 30 public seminars and met formally with members of the Alberta legislature. Similar programs are developing nationwide.

International Contributions

Canada has gained a solid reputation abroad in the field of rehabilitation. Its physicians and specialists are consulted regularly by those of other countries, especially by those in Latin America.

Among the most distinguished of these specialists are Dr. Gustave Gingras, a pioneer of the "Rehab. Team" approach, and Professor G. Allan Roeher, president of the International Association for the Scientific Study of Mental Deficiency and a Visiting Professor at York University, Toronto. Dr. Gingras, Director of the Rehabilitation Centre at Charlottetown and Director of Rehabilitation Services for the Province of Prince Edward Island, assisted in establishing a program of rehabilitation in Venezuela under the auspices of the United Nations, and, at the request of the International Red Cross, in 1959-1960, headed the group treating 10 000 persons crippled in Morocco following their ingestion, as cooking oil, of an aviation oil containing "Tri-ortho-cresyl-phosphate", a nerve poison. Prof. Roeher, retired Executive Vice-President of the Canadian Association for the Mentally Retarded and a founding Director of the National Institute on Mental Retardation at York University, Toronto, is internationally recognized for leadership in the field of mental retardation, particularly in the Caribbean where he has been most active, and as an advisor to Partners of the Americas in Washington. Founder of the Caribbean Institute on Mental Retardation, he is currently advising Australia and New Zealand in the establishment of similar Institutes.

The Department of National Health and Welfare, with the Canadian International Development Agency and External Affairs, plays an active role in fostering improved treatment and conditions for handicapped persons. The Ontario Workmen's Compensation Centre annually draws scores of officials from abroad who regard it as a model for their own potential application.

The Rehabilitation Institute of Montréal is used by physicians and specialists from abroad as a training centre, and the older G.F. Strong Rehabilitation Centre in Vancouver, the first such centre in Canada, also serves as a model facility for rehabilitation abroad.

Guarantee of Human Rights

On July 14, 1977, the *Canadian Human Rights Act* was assented to by Parliament. Section 2 of the Act echoes both the United Nations Declaration on the Rights of Disabled Persons (1975) and the International Covenant on Civil and Political Rights (ratified by Canada in 1976).

In Canada, all 10 provinces and the Federal Government have Human Rights Commissions administering comprehensive *Human Rights Acts and Codes*. Although not covered in the International Covenant, physical handicap as a prohibited ground of discrimination has been gaining considerable support throughout Canada. In four provinces, Manitoba, New Brunswick, Quebec and Saskatchewan, Human Rights legislation prohibits in all areas discrimination on the basis of physical handicap. In the *Canadian Human Rights Act* and in those of Nova Scotia and Prince Edward Island, physical handicap is included only in matters relating to employment. Human Rights legislation in the four remaining provinces, British Columbia, Alberta, Ontario and Newfoundland, are silent with respect to physical handicap as a prohibited ground of discrimination.

Growing public pressure is expected in the 1980's for amendment of Human Rights legislation in all jurisdictions to provide more uniform, consistent protection from discrimination in all areas of concern to physically and mentally handicapped citizens.

XIVth World Congress, Rehabilitation International

The City of Winnipeg was the site, in June 1980, of the XIVth World Congress of Rehabilitation International. The congress drew almost four thousand delegates from over 90 countries around the world.

The theme of the congress, presided over by Pat Harris of Montréal, was "Prevention and Integration". This theme was echoed throughout the five days of panels and speeches.

Delegates agreed that the host organization, the Canadian Rehabilitation Council for the Disabled (CRCD), with the support of municipal, provincial and federal governments, organized a successful event which launched activities in Canada for the International Year of Disabled Persons.

The meeting was noteworthy as well for the significantly increased attendance of disabled persons, both from Canada and from around the world. Their viewpoints and participation are expected to have considerable impact on future planning.

Special Committee of the House of Commons

A Special Committee on the Disabled and the Handicapped was created May 23, 1980, by the House of Commons "to evaluate the scope and effectiveness of existing government programs for the disabled and the handicapped, as well as the degree to which they interlock with voluntary programs and services, with the objective of suggesting measures to improve the quality of services provided to such persons".

The Special Committee of the House is chaired by David P. Smith, M.P. for Don Valley East, and is comprised of seven Members of Parliament drawn from all parties in the House. Meetings began in June and included briefings and testimony from Government departments, agencies and crown corporations, as well as from the private sector. The Special Committee travelled to 18 Canadian towns and cities in all the provinces and in the Yukon Territory, hearing a total of more than 600 deputations. They visited a number of group homes for independent living and Canadian rehabilitation centres, as well as travelling to Washington and Boston to learn the American experience and to Europe to see progress made there.

The Special Committee issued its First Report October 30, 1980, calling for immediate action on the issue of Human Rights and also urging Members of Parliament to "put their own House in order" by ensuring that all Parliament Hill is accessible as a symbol of equality for the country. Should a Charter of Rights be incorporated in a patriated Constitution, the Special Committee said: "Should it be the will of Parliament to entrench Human Rights in a patriated Constitution, your Committee believes that full and equal protection should be provided for persons with physical or mental handicaps."

The Special Committee's main report is expected to be tabled in January of 1981. Copies of that report will be available from The Clerk, Special Committee on the Disabled and the Handicapped, House of Commons, Ottawa, Canada K1A 0A6.

The Special Committee has been reconstituted for 1981, the International Year of Disabled Persons, "to report on progress in the public and private sectors in encouraging full participation of disabled persons in society".

MENTAL AND EMOTIONAL DISORDERS AND COMMUNITY RESPONSE

The relationship between mental, emotional and physical states, while not fully understood, is now generally acknowledged. This relationship, somehow always known by ordinary people and recognized by sages like Maimonides, is now being systematically investigated in studies of neuroendocrine reactions and the integrative aspects of physiological responses to stimuli suspected of contributing to illness. Laboratory tests support the concept of stress as developed by Hans Selye. Experimentally induced stress as well as real life stress in work and living situations are now being studied.

Physically disabled persons are exposed more than most to stressful or traumatic life-events and require particular understanding and response to their psychosocial needs, and/or their emotional expressions of anger and frustration, as these play a role in their ultimate integration and mainstreaming in society. Disabled persons and those who are close to them are beginning to understand this creative anger as a spur to self-management rather than an inappropriate behaviour requiring psychiatric intervention, or an ungrateful response to the helping professions. Where appropriate responses occur, the anger is channelled, not tranquillized.

When ordinary humans referred to the heart as the seat of emotions this was considered primitive and unscientific, until scientific investigation between emotional and cardiovascular reactions to stimuli revealed these connections. Personality types and behaviour are now associated with risk factors in heart attacks. We know that not all persons exposed to particular bacteria or viruses develop diseases, and we now are better prepared to consider host factors and interaction with the environment, including the psychosocial environment, in explaining the development and outcomes of various disorders. In fact, there is even a current danger that psychosomatic factors are suspected before other factors are fully investigated and ruled out.

Despite more integrated concepts of body and mind, there is still a qualitative difference in the way most people view mental disorders as illness as compared with physical disorder or disability. The stigma is greater and the labelling is more enduring even if a person has had a short episode of illness, successfully treated. Once a mental patient, always a mental patient? But changes are beginning to occur.

In Canada, treatment and care of the mentally disordered has undergone a dramatic change during the past decade. While advocated since the Seventies, this change commenced with the advent of psychoactive drugs which triggered the discharge of large numbers of patients from the huge public, largely custodial, mental hospitals.

The majority of children and adults experience emotional or behavioural difficulties at some time or another in their lives - fears, anxiety, disturbances in sleep or eating patterns, sadness or unhappiness, low energy levels, discouragement, insecurity and disturbed interpersonal relationships.

In children, a relatively small proportion of mental disorders constitute conditions qualitatively different from normal development - autism and childhood psychosis are examples -(WHO 1977). Autism occurs in about 3 or 4 out of every 10 000 children, while functional psychosis such as schizophrenia or manic depressive disorders rarely occur before adolescence.

In 1977, there were in Canada, 1242 males and 600 females listed in the books of treatment centres for emotionally disturbed children, facilities that provide long-term intensive treatment for children with emotional or behavioural disorders. Children with less severe problems are treated or cared for in various institutional settings and in the community. But here, as elsewhere, there is a perceived shortage of appropriate facilities and there is the need for improved coordination and continuity of care. As an expert committee of the World Health Organization has stressed, mental health problems in childhood are sufficiently common to constitute a major concern in the planning of health services, and to make it impracticable for them to be dealt with mainly by specialist services.

Psychiatric treatment facilities have both increased and become diversified in Canada in the past decade. From 1968, when statistics were commenced, to 1977 (latest figures available), there was an increase of 149 facilities to 382 psychiatric in-patient facilities. The number of psychiatrists has also been rising. There are about 1200 psychiatrists in Canada, and nearly the same number of specialists combining neurology and psychiatry (1976).

A recent Health and Welfare report on Health Field Indicators examined first admissions, and readmissions to mental health facilities by sex, and major cause in 1975. Of the 125 981 admissions, 30 per cent were classified as neuroses; 18.6 per cent as psychoses excluding schizophrenia; 16.8 per cent as alcoholism; 8.9 per cent as personality disorders; 3.8 per cent as mental retardation and 4.6 per cent as other disorders.

Neuroses include neurosis, psychophysiological disorders, transient situational disturbances as well as behavioural disorders of childhood. While on the whole, admissions for males outnumber those for females - for the category of neurosis - the reverse is recorded (64.3 per cent females compared with 35.7 per cent males). This is true in other countries as well. The American Psychiatric Association has now removed the designation of neurosis from its classification system, requiring more precise identification of the problem. Neurosis has been perceived and experienced as a label by women.

As noted above, the Seventies brought an overall concern with the well-being of society, with social problems and issues affecting our communities and life in general. Quality

of life became a public concern. Crisis intervention became an essential component of community response to human suffering and casualties. The field of mental disorder and health, more so than any other, was naturally affected by these forces.

As part of a broader concern for adequate programs and services in health and social welfare, the mental health field began to undergo profound changes. These were stimulated as well by changes in public policies and interjurisdictional relationships. The rapid shift from the institution into the community revealed new complex problems related to lack of planning and preparation for this *desirable* transition. Many needed services were not available for these "displaced persons" who had been a long time institutionalized, fully dependent and cut off from family ties and friends. Substitutes for these natural support systems have been slow to evolve.

The Canadian Mental Health Association, the national association concerned with the total field of mental illness and health, was strongly affected by these developments. It quickly considered the need for major organizational realignment, a fresh examination of its program direction and the strategies required to pursue the goal of mental health for all.

Among its major initiatives, the following two were particularly significant: a shift to community focus and new external partnerships, reflecting the interrelationship between the mentally and physically disabled. A nationwide "community action for troubled people" was launched to increase community acceptance and support for troubled people; to improve the coordination of services at the community level and to reduce the workload of the overburdened health and social services network, by involving the resources of the volunteer community. The concept of cooperation and collaboration was designed to bring together related professional and voluntary organizations towards a more efficient and effective utilization of economic and human resources. Some examples were (1) the National Inter-Agency Project on Recreation for the Disabled - to promote integration into "normal" community resources (with the Canadian Rehabilitation Council for the Disabled, the Canadian National Institute for the Blind and the Canadian Association for the Mentally Retarded); (2) the development of a National Voluntary Health Agencies Committee representing 14 major organizations to identify and articulate shared interests and advocacy; and (3) the development of a National Voluntary Organizations Committee capable of dealing with governments. Internal partnership also emerged with a major total organizational "renewal" to strengthen the Association's unity of purpose and overall effectiveness. This complex undertaking involved the many local branches, provincial/territorial divisions and the national level. The process included consultation and interviews with "consumers, funders and providers" of mental health services.

The rebuilding, which started in 1977, still continues. Having clarified and redefined the roles, relationships and responsibilities of its three levels, the Association is now developing and implementing administrative and program performance standards. Throughout the "renewal", the dominance and increasingly important role of the volunteer has been emphasized. This has been true, even in its newest undertaking of stimulating Community Mental Health Research.

THE CONSUMER MOVEMENT

Paternalism is out; advocacy and self-help are in, as we enter the 1980's.

Throughout Canada, in all areas of disability, either mental or physical, the views of handicapped persons are being heard more clearly.

There are several reasons for the growth of consumer activity. Among these are: advances in medical rehabilitation, which led to improved physical welfare and mental ability; increased life expectancy and the need to do something constructive; technological improvements with more scope for independence in lifestyle; greater expectations on the part of handicapped persons and their families, and better acceptance on the part of society that disabled or handicapped persons have a right to share in our general well-being.

The Canadian National Institute for the Blind (CNIB), itself founded in 1918 by a blind veteran, E.A. Baker, to provide a voice for blind Canadians as well as provide employment and other services, is under attack from some consumers.

Other activists speak of minimum wages for all persons in sheltered workshops, whether they be for persons with mental or physical handicaps.

The then Minister of National Health and Welfare, Honourable Marc Lalonde, in a speech to the Canadian Rehabilitation Council for the Disabled in Toronto, May 27, 1977, reminded volunteers that the relationships in respect to disabled persons could no longer be two-way. Rather, they would have to be three-way deals, involving government, service agencies and advocacy representatives of the consumers themselves.

The Minister reminded his audience that this had been his Government's message as far back as 1973 and urged volunteer groups to establish better communications with the publics

they served. Physically or mentally handicapped persons could make valuable input, giving not only the views of persons concerned with disability problems but of those actually having those handicaps.

A few months after the Minister's speech, the National Advisory Council on Voluntary Action (NACOVA) in a brief "People in Action", presented to the Government in September, 1977, took notice of the growing and critical consumer movement:

> "A growing number of people, in reaction against the dominance of large established institutions in Canadian society, wish to control their own destinies... The whole self-help movement arises very much from the popular conception that government, business and most other organizations are simply too big. By helping themselves and each other, as well as banding together to make their voices heard, Canadians have found new ways of expressing their concern for the direction in which their society is developing."

In the area of mental retardation, citizen action began some 25 years ago with isolated local, community "parent" groups, growing into a national, federated network of independent local and provincial bodies, first known as the Canadian Association for Retarded Children and evolving into today's Canadian Association for the Mentally Retarded. An organization of some 380 local and provincial groups with over 1000 services from special education to vocational training, the CAMR felt the changes coming about as early as 1972, when it published a document "The Third Stage in the Evolution of Voluntary Organizations", advocating increased consumer interest. In September of 1978 at its St. John's, Newfoundland convention the CAMR put forward a high-profile program of encouraging participation by consumers as well as by their immediate relatives and friends.

Programs supported by the convention included "Pilot Parents" for parents "who have been jolted and confused" by news that their child is mentally retarded; "People First", for handicapped persons "who are angry about being labelled, and about not being consulted about changes in their lives"; "Monitoring Committees", for parents and advocates who aren't satisfied with the quality of service received by handicapped persons; as well as other programs.

In Ontario, the powerful March of Dimes (officially, the Ontario Federation of the Physically Handicapped Agencies and Self-Help Groups), traditionally dominated by the non-handicapped, has made overtures to Ontario groups in the consumer movement, offering staff and resources. The plan, CAM (Consultation, Affiliation, Merger), was viewed with distrust by consumer advocates, particularly COPOH (Coalition of Provincial Organizations of the Handicapped), a national coalition of consumer activist groups headquartered in Winnipeg, Manitoba. COPOH insists that its member groups, which must include 50 per cent disabled persons in the membership and more than 50 per cent on the Board of Directors, be totally independent while carrying out consultation with service agencies.

Down Same Road Together

The relationship between handicapped persons and the service institutions, including hospitals and government, has changed considerably in the past 20 years, notably in the last decade. What is clear is that future relationships will tend to be more equal than in the past and that is what the self-help movement seeks.

Consumer representatives declare they don't want "a free ride", but they do need to and wish to ride - not some specially-designed carousel revolving slowly under constant attention, but the same roller-coaster ride that everyone else is on.

Consumer Movement Defined

What is this movement, the stirrings of which are rustling the branches of sturdy oaks?

The 1973 Conference of the Canadian Rehabilitation Council for the Disabled held in Toronto, at which handicapped persons voted unanimously to represent themselves rather than allow CRCD to do it for them, was a catalytic factor in stimulating the consumer movement throughout Canada and is a milestone in consumer history for handicapped persons. Indeed, volunteer organizations in the course of their normal activities often have sparked interest, the effects of which were not foreseeable at the time.

In such a dynamic movement it is impossible to be exact, but this chapter captures some of the excitement of conditions as they are developing in the 1980's.

The consumer self-help movement is not a new movement; activism and confrontation are not new, although more common today. At least one continuing provincial consumer group dates back 27 years - United Handicapped Groups of Ontario, (UHGO). Most, however, are more recent.

Not all groups considering themselves consumer advocates are "pure" models; some of the earlier organizations were trying to meet a need of the time, service, and their emphasis turned to service rather than pure advocacy.

There are three main elements which identify a "pure" consumer group in this context:

a) being an organization in which handicapped persons are the majority of the Board of Directors, and handicapped persons are at least 50 per cent of the membership;

b) being primarily an advocacy group, supporting the efforts of the entire disabled population and acting as a unified voice for them; and

c) being a group which is *not* primarily involved in direct delivery of services (because of the growing nature of the movement, some groups still perform delivery functions).

In the context of the above definitions, most of the CAMR-sponsored programs, other than "People First", would not qualify as consumer-oriented; in effect, however, the "Pilot Parents" program and the "Monitoring Committees", directly involving guardians of young or severely retarded persons, may be seen in the consumer movement light and are important in their own right.

Organization, Funding, Activities

In doing a review of the consumer movement in Canada, it quickly becomes obvious that both federal and provincial governments, and in some cases municipalities, are vital fund sources for consumer advocates among the disabled. This is not surprising, as it holds true for numerous other areas of minority self-help groups and human rights advocates. The task of organizing, of arranging such basic needs as filing space, stationery, minimal equipment, and of conducting research, even at totally volunteer levels, become overwhelming to small groups.

Much of the recent flowering of consumerism, while it has been years in gestation, is a recent event, tied closely to the provision of grants under government work and social programs, in particular Job Corps Grants of the Canadian Employment and Immigration Commission and grants of the Secretary of State.

The national coordinating coalition, COPOH, began informally in 1975, with participation by self-help groups in the Provinces of Alberta, Manitoba and Saskatchewan. Incorporated in 1978, it now has affiliate organizations in nine of the 10 provinces. In New Brunswick, "Centres Offering Independent Lifestyles" (COIL), is kept in close touch with policies and activities of COPOH, but is not a member. COPOH insists that consumer groups should have 50 per cent of its membership composed of handicapped persons, at least that on the Board of Directors, and the group must be cross-disability in its representation. Effectively, this cross-disability refers to physically handicapped rather than mentally handicapped persons, and the question arises whether it really represents the largest numbers - i.e., psychiatrically, social, emotional or learning disabled.

The Coalition of Provincial Organizations of the Handicapped has a national coordinator and small staff in Winnipeg and has been playing a growing role. The national coordinator has been a key advisor, on loan to the House of Commons Special Committee on the Disabled and the Handicapped, constituted in May of 1980. In addition to its core funding from the Federal Government, COPOH also collects memberships from its affiliates throughout Canada, and receives grants from national church bodies as well as private donations.

Consumerism, from East to West

In Newfoundland, Canada's easternmost island province, consumers of the capital city, St. John's, established "The Hub, Physically Handicapped Service Center" in 1974, with the assistance of federal grants. It began with a staff of eight people, its first task being to set up an information system. Since that time, The Hub has grown to such proportions that it has a budget of some $1 million per annum and is the most significant success story among the consumer groups. It provides support to most disabled persons in the province, including a transportation system in St. John's, a printing shop and novelty manufacturer employing handicapped persons. Mindful of its origins, The Hub has decided that next Fall it will call a conference of all disabled persons in the province with a view to establishing and funding a new advocacy group, totally separate from itself, and critical of The Hub.

In Prince Edward Island, the P.E.I. Council of the Disabled, became incorporated during the late Fall of 1974 and early 1975. While transportation and accessibility were original objectives and remain important objectives today, an important project of this group was the beginning of construction in the Fall of 1979, with Central Mortgage and Housing Corporation financing, of a 12-unit apartment building for disabled persons. Completion was targeted for late Spring of this year, 1980. A private van with lift is provided for transportation on the island and special arrangements have been made with the Provincial Government Department of Highways and Motor Vehicles for specially - designated parking areas for disabled persons wherever a need is identified; cost to the disabled persons is only $3.00, towards the cost of signs and special stickers.

In Nova Scotia, the Disabled Individuals Alliance (DIAL), began in the capital city of Halifax, in the winter of 1977, and grew mainly from concerns and frustration with traditional service agencies. Transport for the handicapped was the original issue; now, however, interest has broadened to include housing, education, employment and human rights. In March of 1979, as a result of successful lobbying, the Government of Nova Scotia announced an experimental project for parallel transportation systems in Halifax, Sydney and New Glasgow, and environs. So far, a trial system with two minibuses, financed by Nova Scotia and administered through Sydney's Community Involvement for the Disabled (CID) has been successful.

Encouraged by COPOH's Conference in 1978, members of CID in Sydney and DIAL in Halifax decided in June of that year to form a province-wide lobbying group, known as LEO, or Nova Scotia League for Equal Opportunities. A student grant from the Secretary of State in

1979 allowed staffing of a LEO office in Halifax, and has allowed expansion of the consumer movement into Yarmouth, Digby and Truro, in Nova Scotia, creating province-wide representation through LEO.

LEO has been active in its work with the provincial government and with its public information program. Functions have been divided amongst LEO member organizations according to their location and expertise; CID in Sydney, for instance, is experienced with the business community and advises in this area, while DIAL, because of its location in the capital, provides day-to-day lobbying. A provincial petition was organized by LEO in 1979, asking for protection of handicapped persons under the Human Rights Code; a total of 1500 names was presented to the government January 23, 1980, and February 28 of this year the Government of Nova Scotia announced in the Speech from the Throne that it would introduce legislation this session to extend the Human Rights Code to include disabled persons. In Sydney, CID also worked to prepare a brief to the Cabinet of Nova Scotia urging that accessibility be included in the provincial building code.

In New Brunswick, Centres Offering Independent Lifestyles (COIL), was incorporated at Saint John in 1979. A provincial organization, it prefers not to be known as a "consumer" organization, even though its membership is predominantly disabled persons. It functions through education programs and deputations as an active advocacy group on behalf of disabled persons in New Brunswick and its concerns are as broad as the needs of its constituents.

Of special interest at the moment is the development, through COIL (Housing) Incorporated, of a six-person group home for dependent physically disabled young adults in Saint John. The home, including land and entirely new construction, is expected to open in the summer of 1981 at an approximate capital cost of $200,000. Funding for construction is coming in part from Central Mortgage and Housing Corporation and from private sources, with operating costs expected to be borne mainly by the provincial government. Administration will be by disabled persons themselves, directing some support staff.

Through its education programs and briefs, COIL has encouraged greater accessibility to recreation and leisure facilities in Saint John, notably integrated access to swimming facilities. Through private funding, it is expecting to launch, with one accessible bus, the first ever public transport for disabled persons in New Brunswick - an area it considers lacking province-wide at the municipally-funded level.

In Québec, organizations of disabled persons are known as "organizations of promotion". For the most part they meet the definition of consumer self-help groups referred to earlier in this chapter. The exception to these criteria is under section "a" where most Québec organizations have broadened, the definition to include "an organization in which disabled persons and their parents, or their friends, constitute membership on the board of directors and are at least half of the officers".

One Québec City-based group, "Carrefour Adaptation Québec, Inc.", has membership in COPOH and holds to the stricter criterion of having over 50 per cent disabled persons on the board. The number of organizations adhering to this consumer principle is growing.

Disabled persons in the Province of Québec are grouped by type of disability: Physical, sensory, mental retardation and mental disorder or, according to their area of interest such as recreation or research. At present there are more than 300 disabled persons' organizations in the province, active on the provincial, regional and local levels. A number of these are grouped under the "Comité de liaison des handicapés physiques du Québec" (CLHPQ) which began in Montréal in 1973 and consolidated with other groups province-wide in March of 1976.

All these organizations share a common objective - the protection of human rights and promotion of the interests and needs of disabled persons. For many, the basic philosophy remains the normalization of living conditions for disabled persons.

Through their dynamism and vitality, these groups have fostered numerous changes to the benefit of disabled persons in Québec, both in the public and private sectors. Since 1978, they have been supported in their work at the provincial level by "L'Office des personnes handicapées du Québec".

In Ontario, a major service agency, CNIB has come under stiff consumer opposition from BOOST (Blind Organizations of Ontario with Self-Help Tactics), a Toronto-based, province-wide consumer group formed in February of 1975. BOOST says CNIB is "too big" and deals with its clients in a paternalistic way. BOOST sees itself strictly as an advocacy group, lobbying for improved employment opportunity and living conditions at both the provincial and municipal levels.

The oldest of the consumer advocates extant in COPOH is 27-year-old United Handicapped Groups of Ontario (UHGO), which has moved in recent years from being primarily interested in recreation, pension matters and reduced transportation fares on public transport, to more consumer action. Again, with the funding of the Federal Government, it has used the past year to build coalitions throughout the Province of Ontario, growing from its constant of 18 or so affiliate members to 29 groups. Until the mid-70's, the thrust had been to improve conditions for the handicapped in Ontario, without emphasis on major social change; now they want equal treatment for their members on jobs and transport. UHGO cites the building of new design commuter trains (GO Trains) for a 48.28 km perimeter of Toronto as an example of disabled persons not being considered in the design stages. No parallel transportation system can offer as much travel flexibility as the GO Trains, UHGO members have noted, and yet the trains are not accessible.

A catalyst for province-wide action was the introduction in November of 1979, by the Government of Ontario, of Bill 188, a Bill presented by the Ontario Labour Department to protect the handicapped under separate legislation. UHGO, BOOST, the Ontario Federation for the Physically Handicapped and the March of Dimes rallied together in vocal opposition.

The Bill was withdrawn in the face of the combined opposition, and both Premier William Davis and Minister Dr. Robert Elgie met with representatives of the handicapped to discuss the matter.

In Manitoba, the Manitoba League of the Physically Handicapped was formed in 1973 after delegates returned from the Toronto Conference of the Canadian Rehabilitation Council for the Disabled that year. The Conference allowed them to hear what had been achieved by consumer groups in the Provinces of Saskatchewan and Alberta and encouraged them to action.

The Manitoba League has been singularly successful in its efforts to establish a parallel transportation system in Manitoba. In June of 1977, the City of Winnipeg began its "Handi-Transit" system for handicapped persons, providing door-to-door service. Operating hours are from 6.30 a.m. to about 11 p.m. and the system has nine buses in operation; four more are on order. Each bus accommodates four wheelchairs and four seated customers and the fare is 60¢, slightly higher than the fare for general bus service. The city transit company boasts that it is the best parallel system in Canada and the most cost-efficient and now, beginning in 1979, the City of Brandon, Manitoba, has begun its own "Handi-Transit" service. The League also played a strong lobbying role in securing amendments to the *Human Rights Act* to include disabled persons. It has been less successful to date in its efforts to improve home care services but has made strong advances in the field of employment.

The Manitoba League of the Physically Handicapped has deliberately used its office as a training centre for disabled persons; League offices frequently have been the first job on a résumé for handicapped persons or since a person has become handicapped and employees have had a good rate of future employment. The League sponsors Quality Employment Service, funded by government grants, which builds contact with employers in Winnipeg, provides seminars for employers and for the disabled seeking jobs and has been able to refer people to employment. The League also started "Concepts", a seed activity which uses LEAP (Local Employment Assistance Program) funds from the Government of Canada to create small businesses and use them to train handicapped persons in business technique; two are in the area of conference and social events organization, while the third is a telephone reminder service. After some 18 months of operation, the telephone reminder service is close to breaking even and is expected to be self-sustaining by the time grants expire.

Manitoba has been a centre for consumer activism for many years. The Canadian Council of the Blind was founded there in 1948 as a consumer movement; since that time, it has evolved into a nationwide recreational organization. The Manitoba Federation of the Visually Handicapped is headquartered in Winnipeg and lobbies mainly in respect to public libraries, ensuring audio-book service is available throughout the province.

In Saskatchewan, we saw one of the first post-World War II efforts to organize a primary consumer group. The Handicapped Civilians' Association was organized during 1947-1948 and operated its own workshops. The "Voice of our Own" Conference at Moose Jaw in 1973 evolved from a decision by disabled persons in the province to form a provincial organization; "The Voice of the Handicapped" resulted. "Voice" has some 500 members across the province and its thrust is directed to affirmative action for Human Rights for the disabled, for women and for native people. It is working on the adoption of a strict building code by the province, to provide access for disabled persons; building codes from all North America have been studied and the Illinois model is being proposed by "Voice". The group also is urging minimum wage rights for all persons in protected workshops, both those for physically handicapped and for mentally handicapped persons. Spokespersons for "Voice of the Handicapped" say the reluctance of disabled persons to stand up to authority, fearing loss of existing conditions, make the activist role difficult. Another target under the Human Rights Code is the exemption for employment in philanthropic, non-profit and charitable companies and the University of Saskatchewan which employs some 3000 persons.

In Alberta, present consumer activity dates back to 1969, when the disabled of Edmonton banded to comment on local issues; by 1971, the Edmonton Action Group on the disabled was formed and submitted a brief to City Council on curb cuts. In 1972, similar groups were developing in Grand Prairie, Calgary, Camrose and Lethbridge and, in the Summer of 1973 after meetings with members of the Provincial Government and convincing them of the value of a province-wide organization, the Alberta Committee of Action Groups was formed with a provincial grant. Today the ACAG speaks for combined membership in those towns as well as Taber and Red Deer, and embryo groups are forming in Carstairs and Brooks, Alberta.

The ACAG realized its long-time dream in March of 1980, when the Government of Alberta introduced its "Alberta Aids to Daily Living" program, providing aids and equipment to disabled persons who could not acquire it under other insurance or medicare programs. This was the subject of the first ACAG brief and has been an objective all through the 70's.

Thanks to pressure on municipal levels, parallel transportation systems exist in several Alberta cities and towns. Again, at least in part because of a brief a year earlier from ACAG the Government of Alberta permitted "voting by mail" for mobility handicapped persons, in the March 1979 provincial elections. Similar programs exist in Manitoba and Saskatchewan.

A prime area of interest for ACAG has been building standards and the requirement of accessibility; such measures were adopted by Alberta in 1975 and strengthened in 1977, and recently the ACAG has been invited to participate in advisory boards for improving these standards. Following a brief on the subject, the Government of Alberta has provided $1,000 grants, similar to those for Senior Citizen Home Improvement Grants, to allow renovation for accessibility. The grants are restricted to wheelchair users and ACAG is pressing for broadening of the terms. Main target of the ACAG is inclusion of disabled persons in the *Human Rights Act* of the province and call for affirmative action programs; briefs on the subject were presented in 1975 and in 1979.

Also in Alberta, a group of some 20 mentally retarded persons have formed a "People First" program. Based in Edmonton and assisted by two "helpers", the People First organization has done more than 30 public presentations to provincial and national conferences, to service clubs, community groups, the media and senior government officials, including the Premier of Alberta. A similar self-help program is active in the neighbouring Province of British Columbia.

In British Columbia, the B.C. Coalition of the Disabled (BCCD), was formed in 1975 after the Social Planning and Review Council of B.C. decided that it needed consumer involvement and employed students to establish a province-wide consumer group based in Vancouver. The BCCD has lobbied for inclusion of disabled persons under the province's Human Rights Code and this continues to be a high priority of the consumer movement; until 1980, BCCD has been an individual membership organization, but revisions to the constitution are being sought to permit acceptance of corporate members, bringing in such groups as the International Society of the Handicapped, the North Okanagan Association for the Handicapped (NOAH) and Surrey Access Group, as well as any other groups conforming to their standards for consumer action groups. A successful area of lobbying has been the adoption by the Provincial Government in 1979 of a Provincial Building Code requiring accessibility in all public buildings, restaurants, etc., in the province. In the area of housing, BCCD works to find appropriate housing for disabled persons and is lobbying for integrated accessible housing projects; along with 22 other organizations, including service agencies and service clubs, it is attempting during the Spring of 1980, to form a non-profit housing society to help meet that objective in Vancouver, which has a very tight housing market generally.

In April 1980, the Provincial Government announced it would take over the B.C. Lions Easter Seal bus service for disabled persons in Vancouver and Victoria, the provincial capital, and will be running the "Handi-Dart" service as part of the Urban Transit Authority, extending service eventually to other towns and municipalities. NOAH, based in Vernon, has become very active within its municipal area and is counselling the Urban Transit Authority on potential service, as well as having successfully lobbied for a completely-accessible downtown core.

In British Columbia, the "People First" program run by mentally retarded persons has been particularly successful, with some 1000 members. In one of its successful programs, mentally retarded persons who have become integrated provide encouragement and support to less well-adjusted mentally retarded persons to bring them into more active social life.

And also in Vancouver, while not directly a consumer-action or self-help group, parents of persons institutionalized at "Woodlands", a 900-resident facility for mentally retarded persons, banded together in 1976 to investigate quality of care. Drafting a 216-point brief, the group of concerned parents and family achieved significant improvements and now two parents of institutionalized persons are on each of the Advisory Councils of Woodlands' five divisions and also are active on all policy and steering boards of the institution.

Citizen Legal Action Against Public Bodies

In the United States, consumers and advocates have exploited jurisdictional channels in an attempt to force public agencies to conform to legislation or honour the constitutional rights of disabled people. Many hundreds of successful class action suits by consumer plaintiffs have been launched there.

With rare exceptions and in contrast to its neighbour, Canadians have not relied on the judiciary to effect legislated change or enforce constitutional rights. This is probably because of limited precedent in the use of class action suits in this country. However, interest and experience in the use of the courts for these purposes is growing. There are indications that consumers and advocates may use this avenue in the future to accelerate change.

Time will tell whether this approach is effective in the long run. The public is apt to be less personally committed if it is led to believe that courts of law can solve the problems for disabled people; that attitude, prejudice, discrimination and various forms of neglect can be altered by legislating change and using the judiciary to enforce the law.

The experiment in the United States needs much evaluation over a long range time frame to assess its real effectiveness.

World Coalition of Persons with Disabilities

Of significance to the consumer movement at Winnipeg in June 1980, at the XIVth World Congress of Rehabilitation International, was the birth of a world coalition.

The congress drew some 4000 delegates from countries around the world and the more than 300 disabled persons in attendance constituted the largest number of disabled persons to attend such a meeting to date. Reacting to the defeat of a motion to have 50 per cent representation of disabled persons on the board of Rehabilitation International, about 100 delegates met and initiated a process to establish a World Coalition of People with Disabilities.

The World Coalition proposes to stimulate "consumer" action and focus greater attention on access to regular community services. A steering committee, chaired by a Canadian, Henry Enns, was established in Winnipeg to work towards identifying other consumer organizations world-wide and bringing them together at a world conference of disabled persons during 1981.

Summation

While these consumer advocacy groups and their activities coast-to-coast do not yet represent more than a small number of disabled persons in Canada, they do tend to reflect the leadership element in the population of disadvantaged. And, relative to their (almost minute) size, they do have considerable "clout", because it is more difficult to face a "primary" consumer than a consumer representative or agency.

IMAGES AND ATTITUDES

In our society, good looks and success in education and career are the values most people strive for; those who don't measure up are assigned minority status. Can drinking the right soft drink somehow make everyone a trendy jet-setter, skiing, hang-gliding, or doing similarly attractive things? If using the wrong toothpaste or mouthwash can ruin one's hope for romance, where do disabled persons fit into this 53.34 cm picture?

The American involvement in Vietnam, with its consequent return to the United States of thousands of disabled veterans, many of them articulate university students, had a profound impact on the consumer movement there and on public attitudes towards the handicapped, in the late 60's and 70's.

While World War II and Korean veterans, particularly the disabled, were warmly welcomed home, public attitude was more ambivalent to veterans of Vietnam. The Vietnam veterans were more politicized than their Second World War counterparts and, on the whole, probably more articulate. They wanted a share of the "real" life back home and nothing less would satisfy. The overlapping effect of American culture made itself felt in Canada.

Simultaneously, parental groups and self-help groups were forming, both in the United States and Canada, and became more sophisticated in their use of the media to achieve their points of view. Concurrent with this consumer movement was the, for the first time, truly ubiquitous nature of that most powerful of all media, television. No longer the oddity in Canada of the 50's, television sets had become an essential fact of social life.

Featuring of a handicapped person in a popular dramatic series or situation comedy can have more impact on millions of Canadians than thousands of articles, books and pamphlets - e.g., "Ironsides" and "Dr. Gillespie" on television, or "Best Years of Our Lives" and "The Other

Side of the Mountain" on the large screen. And the consumer movement recognized this first in the United States, where Hollywood is the major producer of television fare, both for the United States and Canada.

In 1971, a letter was sent from the editors of "The Exceptional Parent", a magazine in the United States devoted to parents of the disabled, to the producers of the popular children's television show "Sesame Street". The letter urged inclusion of a child with a noticeable disability as a "resident" of Sesame Street. That letter and subsequent meetings resulted in the inclusion of children with cerebral palsy in several programs and, in the 1975-1976 season, a special segment designed for mentally retarded children was shown, and mentally retarded children were featured in these shows along with "The Muppets" and other famous Sesame Street characters.

Children's television in the United States was at the forefront of such responsible attitudes. On the Public Broadcasting System (USA) children's program, ZOOM, aimed at the 7-11-year-old child, producers adopted a conscious policy of including disabled children in segments, and have featured deafness, blindness and heart disabilities.

Negative Media Images

By the same token, however, television can be a major negative force. An example is the popular weekly television series "The Incredible Hulk", dealing with a research scientist who accidentally changes himself into a Jekyll and Hyde character. From a highly-educated and soft-spoken professional, emerges under pain or stress a totally inarticulate and raging monster, green, muscular and giant. The "Hulk" smashes through doors, throws people through the air and somehow only manages to hurt "the bad guys". Why the "Hulk" should be unable to reason or communicate on any level is unfathomable; just as much a mystery as the source of new, freshly-laundered wardrobes worn by the doctor when "the Hulk effect" wears off.

Another medium, subtle in its creation of strong prejudices among the young and semi-literate, is the comic book. An American study of this medium and its portrayal of physically deformed characters show a strong relationship between physical abnormality and character flaws. Thirty-five per cent of those characters without any physical distortion were portrayed as "neutral"; in contrast, not one physically deformed character was depicted either as "neutral" or "passive". Evil characters were more likely to have head or limb distortions. Short persons were most often exceedingly kind, while tall persons were exceedingly nasty. While it may be argued that dire physical attributes need be attached to dire behavioural attributes for emphasis, the fact remains that these two become intricately entwined and physical abnormality can become, in the minds of children or semi-literate adults, emblematic of negative stereotypes.

Health and Welfare Surveys

A survey of Canadian literature in English and one of literature in French were conducted in 1979 for Health and Welfare Canada.

In reviewing English language literature, some 100 letters were sent to universities and library systems across Canada, asking for assistance in identifying the role of handicapped persons in Canadian literature. A thirty-five per cent response ranged from one-page letters to extensive lists and annotations; what was clear was the need to build a comprehensive bibliography. There is a strong undercurrent of interest in the handicapped and public perceptions of them, mainly in contemporary works.

English-Language Literature

David Freeman's play "CREEPS" has become ubiquitous as the Canadian work about the handicapped. It is set in a sheltered workshop for people with motor disabilities. Action takes place in a washroom and all the characters are male; the play revolves around their hatred for the institution and their realization of insecurity even if they had someplace else to go. The issue of risk is a vital one; "CREEPS" makes the audience realize how many of the things an ablebodied person can take for granted are matters of high risk for someone disabled. One of the group, a would-be writer, seeks to break out and all his friends plead for him to go, but finally he cannot.

Apparently the oldest English-language work dealing with handicaps in Canada is Robert Barr's "The Measure of the Rule", written in 1907.

The study found authors generally willing to use retarded persons as figures in their books, but some were not capable of speech at all, while others could communicate within an expectedly limited range. Persons who are only physically handicapped presumably would have no intellectual impediment to communication and yet one doesn't see them arise, in Canadian literature, as friends or relatives in any significant number. Also, without exception, the study found that mentally handicapped characters in literature have been that way since birth, while a disturbing number of physically handicapped are the victims of accidents or serious illness. Mordechai Richler's Boy Wonder (The Apprenticeship of Duddy Kravitz) contracted polio at age 28 and is an extremely negative character. Dunstan Ramsay, Robertson Davies' narrator in "Fifth Business", lost his leg in the war. Jean Little's Sal Copeland, in "Mine for Keeps", and the inhabitants of David Freeman's workshop in "CREEPS", are the only physically disabled characters found in this survey who were that way from birth. Why this is so in unclear; perhaps it is easier to understand someone's present physical state by attributing it to a tangible event like serious illness, an explosion or car accident.

There were few instances where the handicapped were depicted as being "ordinary", leading a life unhampered by other persons' prejudiced perceptions. The study found too few instances of this and in two cases the characters were mentally handicapped, which seemingly makes them more useful to authors. From the survey, it would appear physically disabled persons are not in the foreground of thought for major Canadian writers in the English language, but rather are used as a means of commentary on other things.

French-Language Literature

A review of French-language Canadian literature necessarily centred on the Province of Québec.

Hundreds of literary works were reviewed and the study analyzed in terms of three historical periods (1880-1930, 1930-1960, 1960-1979) corresponding to the modern evolution of the province.

During the first period, works were reviewed in two categories - those inspired by religion and those inspired by naturalism. In the first, the Jansenist Philosophy of submission, mortification of the flesh and suffering, strongly influenced Québec society of the period and its literature. All centres on the soul and preparation for a better afterlife; handicaps are given by God to test us for Paradise. Antithetically, the naturalists argued that God is Dead and Man is egocentric and cruel. In this second category, only the strongest and most ruthless survive and the handicapped are exploited and cast aside.

In the period from 1930 to 1960, Québec was undergoing a period of urbanization and industrialization. People left the land, technology dominated and the clergy began to lose their influence. In plays and novels, authors dealt with integration of handicapped persons in the industrial society and the problems therewith. Should they be put away in asylums? What use were they?

In the majority of novels, physical handicaps are only a reflection of emotional handicaps and the handicapped person cannot establish his or her own identity. To be weak mentally is to be weak physically; at the same time, any handicapped person who was willing to overcome incapacity was successful; to be willing is to be able. The choice of submission or fighting was individual and society aided little or not at all. Towards the end of this period, essential questions begin to be posed; what is madness, who's protecting whom from what, and is society itself perhaps at fault?

The last period in the review, 1960-1979, begins with Québec's "Quiet Revolution". In this period it is not the individual who must adapt to society, but rather society which must meet the needs and aspirations of the individual.

The handicapped person is used as a literary symbol for a Québec which feels broken, crushed and dominated by others, but which is in revolt. It is essentially a social revolt. But it is checkmated in favour of the status quo and the dissidents "are interned in asylums and driven mad" (La ville inhumaine, Prochain épisode).

In French-language literature, the milieux and institutions have evolved in which handicapped persons exist, but stereotypes remain. A handicap is seen as a symbol of weakness; a handicapped person is seen as having less, therefore to be despised. Sometimes the handicapped person is depicted as a poet, a prophet or gifted madman, but in novels, the handicapped person cedes priority to the symbol.

How to Effect Change?

H.H. Kessler, an eminent pioneer in rehabilitation almost half a century ago, summed up former attitudes in terms of two great social barriers: psychosocial and economic prejudice and prejudice resting on superstition, misunderstanding, and false concepts of capacity to work, in his paper, "*The Crippled and Disabled*", N.Y., published by Columbia University Press, 1935. Current attitudes differ because, in general, social consciousness is now better developed than in the past, with resultant provision of necessary treatment and ever-expanding opportunities for economic usefulness. Disability, however, still magnifies the difficulties of the individual in achieving social acceptance by normal peers. Contemporary society, it is generally agreed, accords the handicapped a sympathetic, charitable, rather than equal status, but variations in cultural definitions and impairments occur within and between family and community settings.

In assessing the significance of the media and literature in influencing attitude change, the scientific field holds the following views about modification of attitudes. Social scientists agree, and the results of studies corroborate, that a number of ways are effective in changing public attitudes as they relate to the minority group described as the "handicapped". The most effective is through intergroup contact or interaction. When prejudiced people are brought into direct contact with minority group members and share experiences with them, attitudes often undergo a gradual but deep change. Familiarity with the attitude stimulus diminishes unconscious fear of the unknown, since such fears are often unfounded and based on ignorance. The closer the relationship between the handicapped and others, the greater the potency of such relationships in the formation or change of attitudes according to H. Remmers, in the Handbook of Applied Psychology, 1970.

Direct educational programs are a second way of changing attitudes. Familiarization with accurate information can contribute directly to an amelioration of the cultural atmosphere in which undesirable attitudes breed. Again, this tends to dissipate fear of the unknown or the uncertain.

A third way is through changing the attitudinal environment of the prejudiced individual. People desire to accept the views of those with whom they identify. A person seeing others around him, or her, changing their attitudes is relieved of vague fears and can change with them. If, therefore, a prejudiced person is in a situation where people important to him or her are free of prejudice and express this, he or she may change without being aware of it.

People who enjoy prestige in the eyes of the conformist can effect a change, particularly if their statements are backed by action and not contradicted by other people of high prestige. Thus, people such as President Roosevelt eased the prejudicial image of poliomyelitis victims, as did the Kennedy and Vanier families for intellectually handicapped people.

Youth More Attuned?

In a 1976 study on the nature of fund-raising in Canada, done by Cockfield, Brown Company Limited of Montréal, it was found that there are marked differences in attitude towards handicapped persons between teenagers and adult members of the ablebodied population.

"Adults tend to be turned off when they see obvious disabilities, feeling guilty and embarrassed and wishing that they could get away. While the teenagers tend to feel somewhat awkward, they are more likely to be sympathetic and to try to relate to the disabled persons as individuals, or on an equal basis. They recognize the need to help the handicapped or crippled individual to feel a part of the social group rather than someone different. For the adults, an obvious disability tends to set a person apart from the group and the fear of something different affects their relationship with him."

Until recently, parents of handicapped children, especially of those with mental disability, tended to be ashamed, as if this were some divine judgment visited on them for past errors. Through more positive public and self-image, thanks largely to the consumer movement and such programs as "Pilot Parents", whereby more experienced parents of mentally retarded children befriend and counsel new parents, this has changed and is changing.

The self-help movement, largely comprised of well-educated, young disabled persons whose positive self-image leads them to strive for an equal place in society, has recognized the need to work at the school-age level, as well as through other media to reach adults. They are beginning to do classroom presentations on handicaps to eliminate young children's natural apprehension about "different" people.

CRCD Advertising Campaign

In March of 1978, Health and Welfare Canada agreed to a proposal by the Rehabilitation Council for the Disabled to finance a national public education campaign on attitudes to the disabled. The campaign was developed in cooperation with CRCD by a major advertising agency; print, television and radio ads in English and in French were produced on the theme "Our attitude towards the disabled can be their biggest handicap". Full-page advertisements

were run in Reader's Digest, Chatelaine, Homemakers, Quest and Time in both their English and French editions and in other publications. Because of favourable public response, the publications cooperated extensively, even providing repeats on a public service basis.

Three hundred thousand dollars were spent on the first campaign in 1978. Similar amounts were disbursed in a continued campaign in 1979, and Health and Welfare Canada is committed to a third stage of $300,000 in 1980. The free repeats of the ads as a public service by the media are a contribution evaluated at $1 million.

Positive Image in Fund Raising

An area of concern to the handicapped is their image as portrayed in another form of advertising and promotion - the fund-raising variety. While the funds are necessary and appreciated, there is concern that the use of stereotype disabled persons, particularly children, as the props on which to raise millions of dollars annually in telethons and similar fund drives, only reinforces the image of the disabled as "helpless". And while it effectively raises needed monies for services organizations and for individuals, in the long run it would appear counterproductive to integration and normalization of the disabled in the community.

Similarly, while providing segregated facilities for the disabled is necessary in certain cases, such as the severely multi-handicapped person, it tends to focus attention on disabilities rather than abilities.

Various services organizations are looking into alternative methods, or modifications to existing fund-raising programs, in order to modify the patronizing approach. The disabled themselves, needing both money and respect, have attempted to reorient fund-raising systems by turning to potentially profitable business enterprises. Such self-help programs, they feel, would promote positive attitudes in the public.

SERVICES TO DISABLED PERSONS

I. HUMAN RIGHTS

On December 20, 1971, from a draft prepared by the International League of Societies for the Mentally Handicapped and presented by France and Canada, the United Nations adopted a resolution entitled "Declaration on the Rights of Mentally Retarded Persons"; and, on December 9, 1975, the United Nations General Assembly adopted a resolution entitled "Declaration on the Rights of Disabled Persons". This latter international declaration formed a consensus to guarantee human dignity; medical, social and other services; normalization and integration; economic and social security; legal aid and consultation through advocacy groups, among its 10-point program. The U.N. International Covenant on Civil and Political Rights, however, which was ratified by Canada in 1976, does not cover discrimination against the physically handicapped.

Section 2 of the *Canadian Human Rights Act*, assented to by Parliament July 14, 1977, echoes both the Declaration on the Rights of Disabled Persons and the International Covenant on Civil and Political Rights when it states: "Every individual should have equal opportunity to make for himself or herself the life that he or she is able and wishes to have consistent with his or her duties as a member of society, without being hindered in or prevented from doing so by discriminatory practices based on race, national or ethnic origin, colour, religion, age, sex or marital status, or conviction for an offence for which a pardon has been granted, or by discriminatory employment practices based on physical handicap."

In Canada, all 10 provinces and the Federal Government have Human Rights Commissions administering comprehensive human rights acts and codes. Although not covered in the International Covenant, physical handicap as a prohibited ground of discrimination has been

gaining considerable concern throughout Canada. In four provinces, Manitoba, New Brunswick, Quebec and Saskatchewan, human rights legislation prohibits discrimination on the basis of physical handicap in all areas. In the *Canadian Human Rights Act* and in those of Nova Scotia and Prince Edward Island, physical handicap is included only in matters related to employment. Human rights legislation in the four remaining provinces, British Columbia, Alberta, Ontario and Newfoundland, are silent with respect to physical handicap as a prohibited ground of discrimination.

The Canadian Human Rights Commission

On March, 1, 1978, the enforcement provisions of the *Canadian Human Rights Act* were proclaimed, enabling the Canadian Human Rights Commission to begin processing complaints.

The Commission consists of a Chief Commissioner, Deputy Chief Commissioner and from three to six other members appointed by Governor-in-Council. Both the Chief Commissioner and the Deputy are full-time appointments, while the balance may be either full or part-time; there is, at present, one other full-time Commissioner, who has been designated Privacy Commissioner. The Canadian Human Rights Commission reports independently to Parliament and its head office is in the federal capital, Ottawa. Additionally, the Commission has regional offices in Halifax, Montréal, Toronto, Winnipeg and Vancouver.

The *Canadian Human Rights Act*, under which the Commission has jurisdiction, applies to all Federal Government Departments, Agencies and Crown Corporations, as well as to business and industry coming under federal jurisdiction, such as banks, airlines and railway companies, in their employment policies as well as in their dealings with the public.

Human Rights and Physically Disabled Persons

While the *Canadian Act* prohibits discrimination in employment on the basis of physical handicap, in all areas regulated by Parliament, it does not, as it does with eight other grounds of discrimination, protect the disabled individual from discrimination in the provision of goods, services, facilities and accommodations. Although the Commission does not have enforcement in this area, the strong language of Subsection 22 (h) of the Act "shall encourage" clearly provides the Commission with strong legal obligation to deal with these areas of concern.

Despite obvious limitations in its mandate, there are some 1 200 000 employees under federal regulation and, therefore, the Commission is not without influence. Predictably, businesses under federal jurisdiction complain of conflicting provincial codes or regulations. However, the Commission has found that good faith and willingness can achieve a great deal.

There are four main problem areas in discrimination in employment - first are administrative technicalities; second are limitations within the workplace; third, while intent on the part of the employer may be positive, the employment system itself may discriminate, and fourth, the hardest problems to overcome are fears and prejudices of employers and co-workers.

Any individual or group of individuals having reasonable grounds for believing that provisions of the Act have been contravened, may file a complaint with the Commission; the Commission itself also may initiate a complaint.

Systemic Discrimination

Section 10 of the *Canadian Human Rights Act*, referring to systemic or institutional discrimination, prohibits employers from pursuing policies or practices which deprive an

individual or class of individuals of employment opportunities. This differs from overt discrimination because no personal intent is necessary and it remains invisible to the casual observer. The nature of systemic discrimination is such that, on a case-by-case basis, it is often difficult to prove discrimination has occurred and, if so, on what grounds. The fact that almost 80 per cent of Canada's employment-age disabled persons are not in the labour force indicates the magnitude of this problem.

Pensions and Insurance

The Commission has given careful consideration to the status of physically handicapped employees in various benefit plans. In the case of pension and insurance plans, regulations provide that, in respect to physically handicapped employees, exceptions to the general rule should be permitted only in limited circumstances; for example, there would not be basis for complaint to the Commission if, under disability income insurance and health insurance plans, employees of organizations with less than 25 employees were required to satisfy requirements as to health before they could participate. Otherwise, the premium rate would be so high as to discourage operation of such a plan. At the same time, it should be noted that unless specifically provided for in the regulations, any distinction in pension or insurance plans related to employment, made on the basis of the grounds provided for in the Act, such as physical handicap, would be considered a discriminatory practice and contrary to the Act.

Commission Activities Concerning Handicapped Persons

The Commission recognizes the principle of self-determination and advocacy for social change and regularly consults with consumer groups, being sensitive all the while to the differing levels of development and concern among such groups. It has identified organizations of handicapped persons in Canada and that list is available. Also the Commission has embarked on a major communications program designed to stimulate greater contact with representative groups, as well as educating the public, community organizations and employer groups as to the human rights aspirations of handicapped persons. Among its programs, a survey of householders has established more than 80 per cent willingness among respondents to allot a portion of tax dollars towards making the community more accessible to disabled persons. The Commission also has initiated a voluntary "equality in employment" program in which it will examine, assess and evaluate employment systems of voluntary participants.

Affirmative Action

Affirmative action programs are another form of positive action endorsed by the Commission. The Commission can initiate such programs, through which disadvantaged groups are given greater opportunity of employment than the population of their group normally would indicate. While there may be complaints of reverse discrimination under such programs, the *Canadian Human Rights Act* states that a special program to redress disadvantages caused by discrimination in the past is *not* discriminatory against the previously dominant group.

Conclusion

In the Winter 1979-80, Vol. 34, issue of "Caliper", the Canadian Paraplegic Association's house-organ, Chief Commissioner Gordon Fairweather indicated that the Canadian Human Rights Commission would be recommending extension of the grounds of the Act to include

physical handicap in areas other than employment. He also said that a section currently limiting the rights of handicapped persons concerning workers' compensation in a settlement be deleted, so that they will have full rights.

Legislative amendment is one form of advancing the rights of handicapped persons. The Commission also considers its education programs to be an indispensable part of its mandate. The Commission will make its presence felt in the community, as well as influencing policies and practices of federal departments, agencies and corporations coming under its jurisdiction.

The proposed amendments to the Canadian Human Rights Act have since been supported by the Special Committee on the Disabled and the Handicapped in its First Report, October 30, 1980, to the House of Commons.

II. MEDICAL REHABILITATION

Provincial Medical Rehabilitation Programs

During the past 30 years organized public rehabilitation programs to assist disabled Canadians to become as independent as possible have been gradually established in all provinces. The concepts of restoring a person to a condition to permit resumption of normal activities and achievement of the greatest possible degree of physical, social and economic independence are widely accepted. This requires health, social, educational and vocational services and a supportive social environment providing jobs, housing, transportation, access to public facilities, family support and other services.

The leading causes of disability are diseases of the musculoskeletal, circulatory, and nervous systems, and of the sense organs, and accidents, cancer and metabolic diseases.

Convalescent and long-term patients and those with more complex problems who have a potential for improved function can be started on a rehabilitation program. This program may be provided on an inpatient or outpatient basis at a hospital, in a regional rehabilitation or health sciences centre, or it may be a specialized program for particular problems. Fifteen beds are required for 1000 population, and one regional rehabilitation hospital or centre to serve a population of one to 1.5 million.

A rehabilitation medicine unit depends upon a variety of support services supplied by other departments and agencies, such as occupational therapy, physiotherapy and outpatient transportation. The physiatrist who specializes in physical medicine and rehabilitation complements the work of other medical specialists and other workers. Effective rehabilitation often depends on a team approach, with the disabled individual's active participation the single most important contribution.

A. Development

The experience of the federal Department of Veterans Affairs in rehabilitating disabled casualties of both World Wars led to the extension of similar services for the civilian population. By the end of World War II the Department had established an effective rehabilitation program directed to both treatment and vocational objectives, and using physiotherapy, occupational therapy, remedial physical training, educational services, psychology and social work services. The facilities and rehabilitation expertise were later turned over to civilian agencies.

The movement to assist handicapped children, initiated by service clubs in Ontario and Québec, resulted in the formation of the Canadian Council for Crippled Children in 1937. The Ontario Workmen's Compensation Board established in 1938 the first department of rehabilitation that combined physical restoration with vocational reestablishment.

In the post-war period the emphasis has been on new approaches to treatment, research and technical aids. In the 1950's the Federal Government created a framework for rehabilitation services by appointing a national coordinator of rehabilitation, constituting the National Advisory Committee on Rehabilitation, and establishing a health grant for medical rehabilitation. By 1971, provincial hospital and medical care insurance, with federal cost sharing, were in effect in all provinces. The thalidomide tragedy in 1962, affecting about 115 children, presented the greatest challenge in Canadian rehabilitation history, and resulted in the development of modular prostheses and myoelectric control systems for child amputees.

The most important advances in the 1970's were the extension of special programs for spinal cord injuries, amputations, stroke and arthritis, and ambulatory hospital units for treatment of specific conditions, including cardiac, diabetic and neurological. This was matched by the expansion of physiotherapy, and occupational and speech therapy in all types of institutions. In addition, there is a growing interest in the field of gerontology, including geriatrics.

Only Ontario, Québec and possibly British Columbia have a large enough population to justify a decentralized system of comprehensive regional rehabilitation centres. In Ontario, there are five designated regional centres. The other provinces have one or two comprehensive rehabilitation centres, either a separate centre or a large hospital department.

Day hospitals and home care programs which enable patients to remain at home, as well as being less costly than institutional care, are the preferred mode of care for large numbers of the convalescent, disabled and elderly infirm.

B. Organization

Since 1968, the number of general public hospitals with rehabilitation beds has more than doubled to 67, with a 70 per cent increase in rehabilitation beds to over 3500. Many other public hospitals have an organized rehabilitation service under medical direction with no beds designated. Inpatient rehabilitation centres have declined since 1968 from 12 to 10, and the number of beds in rehabilitation centres dropped by half to 635. At the same time, rehabilitation beds in children's hospitals have increased substantially.

Another principal trend is an increase of physical medicine and rehabilitation services for ambulatory patients and a similar expansion in outpatient rehabilitation centres.

C. Rehabilitation Personnel

The best general indicators of progress in medical rehabilitation programs are the numbers of qualified personnel who are employed full-time in the field. During the eight-year period from 1968 to 1976 the number of rehabilitation professionals working in Canadian hospitals and centres increased significantly, and these increases are largely attributable to expansion of physical medicine and rehabilitation programs. By 1978, the number of full-time physiotherapists in active practice had increased by 29 per cent, occupational therapists by 80 per cent, and speech therapists, including andiologists, by 360 per cent. The number of social workers employed in hospitals expanded by 100 per cent, and psychologists at general hospitals by 67 per cent. In addition, the new profession of biomedical engineering has grown steadily since its organization in 1966. Today the numbers of physiatrists and prosthetists/orthotists is still considered inadequate.

D. *Types of Rehabilitation Programs*

Comprehensive rehabilitation programs, rehabilitative services for specific conditions, outpatient and ambulatory services are provided by public general, chronic and specialty hospitals such as Lyndhurst Hospital for paraplegics in Toronto. Inpatient and outpatient services at multi-purpose rehabilitation centres - the Institut de Réadaptation de Montréal, the G.F. Strong Rehabilitation Centre in Vancouver, and the Ontario Crippled Children's Centre in Toronto - emphasize medical and vocational rehabilitation to enable patients to achieve their highest possible levels of independence and development.

Home Care Programs of varying scope are available for convalescent patients, the disabled, the chronically ill, and frail elderly persons requiring treatment or support, when home care is the most appropriate care. Comprehensive programs are in effect in five provinces. While this service frees more costly hospital beds, broader benefits include more rapid convalescence and rehabilitation for some patients, and more effective care and treatment for others.

E. *Rehabilitation Professions*

The rehabilitation professions in Canada are regulated by provincial licensing boards, the Royal College of Physicians and Surgeons, professional associations, or by a certification board. Four years of advanced graduate training in the medical specialty of Physical Medicine leads to certification. Courses leading to baccalaureate degrees in physiotherapy and occupational therapy are offered in many Canadian universities. A two-year Master's Program in speech therapy and audiology is available at five university schools, as well as several four-year programs leading to a Bachelor's degree at other universities. Many universities offer a Bachelor's and a Master's degree in Social Work, and the University of Toronto has a Ph.D. course. Prosthetists and orthotists undergo training at their own school in Montréal or the George Brown College of Applied Arts and Technology and West Park Hospital, and may be certified by a Board. Respiratory technologists attend one of eight accredited schools of technology.

Prosthetic/Orthotic Services and Technical Aids

Prosthetic and orthotic devices and technical aids are medically prescribed for physically disabled persons to restore relatively severe loss of function resulting from disease, accident or congenital defect. The proper design and fitting of the device and training in its use are crucial if the disabled persons are to lead normal lives. A great variety of types of prostheses and personal aids have been developed, including lower and upper limb prostheses, wheelchairs, crutches, corrective footwear, and hearing aids. There are also thousands of applications of rehabilitation technology to resolve problems of mobility, communication, perception and learning due in part to increased federal support for research and development of modern electronic technical aids.

Prosthetists and orthotists, working under the physician's direction, require similar training and skills. The prosthetist makes and fits artificial limbs, while the orthotist makes and fits orthopedic braces to support or correct body parts. A physiotherapist or occupational therapist helps the patient to learn to use the device.

A. *Development*

Prosthetic services in Canada were instituted in 1916 for returning war casualties, and research facilities and staff training were also established. During and after World War II the

Department of Veterans Affairs promoted applied research at Sunnybrook Hospital's Research Centre and, by 1946, had reached its peak capacity to produce 1800 artificial limbs. Department of Veterans Affairs had increased its capacity to look after war amputees. Research and development in prosthetics and biomedical engineering were further strengthened when the serious nature of the thalidomide tragedy was realized. Regional rehabilitation centres were established in Ontario, Québec and Manitoba, financed by the Department of National Health and Welfare. In 1965, the Prosthetic Services of the Department of Veterans Affairs was transferred to the Department of National Health and Welfare, thereby making these comprehensive services available to the civilian population, and necessitating the development of a centralized manufacturing and supply capability and the ability of each centre to operate its own assembly and fitting service. More research and development work and a larger staff were required.

Apprenticeship and in-service training for prosthetists and orthotists were superseded by two- or three-year training courses at the School of Prosthetics and Orthotics of Québec, and by 1967 a Certification Board recognized by the Canadian Medical Association undertook to accredit formal courses and to examine and certify graduates.

The increasing interest in prosthetic research in the early 1960's led to significant Canadian inventiveness, including the Symes Prosthesis, the Hip Disarticulation Prosthesis, an electrical alignment unit Modular Prostheses for lower extremities, myoelectric controls for upper extremity prostheses. During the past 30 years, the National Research Council has specialized in engineering research and development of aids for the handicapped. It has produced devices for the blind such as homing beacons and electrical meters, communications aids for the cerebral palsied, and biofeedback units.

Standardization in the field of prosthetics, orthotics and technical aids is now under way by the Canadian Standards Association.

B. *Sources of Prosthetic Services*

Prosthetic and orthotic services and personal aids are available from the Department of National Health and Welfare, through Prosthetics Service Centres located in major cities, hospitals and rehabilitation centres, and from several provincial Workers' Compensation Board Centres. Saskatchewan operates a broad program, the Aids to Independent Living Program, which provides services devices and equipment. In addition, voluntary agencies, provincial home care programs and the Red Cross provide loan services, and privately operated commercial suppliers offer another source.

C. *Payment for Prosthetic Services*

Payment for prosthetic/orthotic services is in a transition stage as four provinces now include these costs in their health services plans, and by March 1980 four of the 12 federal Prosthetic Services Centres had been transferred to local hospital and rehabilitation centres (and the transfer of the others to provincial health agencies by 1981 had been proposed). Only 8 per cent of federal Prosthetic Services clients have paid directly for these services, while 92 per cent of clients have been sponsored by provincial or voluntary agencies. Prosthetic services for various groups of disabled are paid for by Workers' Compensation Boards, by the federal Department of Veterans Affairs, under the terms of the *Vocational Rehabilitation of Disabled Persons* and the *Canada Assistance Plan Acts*, and by voluntary agency contributions.

D. *Prosthetic and Orthotic Services Programs*

Federal Prosthetic Services, administered by the Medical Services Branch of the Department of National Health and Welfare, continues to provide fitting, production, consulting and training services at the Centres it still administers. Certified prosthetists and orthotists visit the Centres and work under a licensed practitioner or rehabilitation team. Technicians assemble component parts and carry out repairs and modifications. A manufacturing facility and a storage warehouse in Toronto supply the components. The National Research Council evaluates devices of Canadian origin and offers training in methods of assembly.

The Provinces

The Saskatchewan Aids to Independent Living Program (SAIL) makes available to residents artificial limbs and braces, wheelchairs, walkers, commodes, repair services, follow-up services and special benefit programs, as well as covering the rental for special telephone appliances. Hearing aids are provided at reduced cost under a separate program.

Since 1975 the Québec health insurance plan has paid for most devices and aids for the physically handicapped, including purchase, repair and replacement, on a prescription from a medical specialist.

The Manitoba Department of Health and Community Services provides appliances and technical aids, including wheelchairs on loan and respiratory support systems, and medical supplies for ostomy patients. Most expenditures on prosthetic/orthotic services and technical aids have come from public tax sources through a government grant.

In Alberta, prosthetic/orthotic devices, respiratory support systems and technical aids are supplied. A new Aids to Daily Living Program supplying wheelchairs, respiratory equipment and ostomy supplies was to be implemented in 1979.

New Brunswick continues to provide prosthetic services and aids to handicapped children; prosthetic services were established in Prince Edward Island in 1977, and in British Columbia there are varying provisions to supply prostheses and aids by the Ministries of Health and of Human Resources.

A. *Institutions*

Over 40 hospital and rehabilitation centres have established facilities for the fitting and assembly of lower extremity limbs and braces, and rehabilitation centres operated by Workers' Compensation Boards in several provinces provide a prosthetic service. Some hospitals and centres employ biomedical engineers concerned with developing new aids and devices and who are usually linked with universities or the National Research Council.

B. *Private Services*

Approximately 50 commercial firms in Canada supply artificial limbs and braces, usually limited types of imported components and orthopedic shoes.

C. *Role of Voluntary Agencies*

Provincial and local voluntary agencies serving the physically handicapped have always been heavily involved in the provision of prosthetic services and technical aids, and they continue to play an essential role, although the demands have lessened in those provinces which

have instituted public programs. For example, the Ontario Crippled Children's Centre in Toronto is involved in all phases of the production and delivery of prosthetic services, including the lending of equipment on a short-term basis. The Rehabilitation Engineering Service of the Centre has become internationally known for its research and development of new devices and technology. Funding comes from the provincial health insurance plan, the Ontario Ministry of Health, the federal Department of National Health and Welfare, the Ontario Society for Crippled Children, and various private foundations.

In the other provinces voluntary agencies provide equipment loans, and in some cases pay for devices, equipment and aids not available from government sources, with current emphasis on electronic aids that increase independence in daily living, such as controls to turn on lights, unlock doors, and operate household appliances, including the telephone.

D. Rehabilitation Technology: National Organization

One of the most progressive policies to assist greater numbers of disabled Canadians to independence was the organization in 1979 of a national non-profit company, Technical Aids and Systems for the Handicapped Inc. (TASH). The new agency has a mandate to market, distribute and service environmental controls and other technical aids not otherwise available because of high development costs and lack of engineering expertise. The two other principal components of the national structure established in 1979 to promote the use of technical aids are the National Research Council's Technical Aids Advisory Committee and Rehabilitation Technology Unit, which work with TASH in the research and development, marketing, service, delivery and export distribution of aids.

E. Research and Development

An increasing number of government departments and research funding agencies, university engineering and medical departments and health sciences and rehabilitation centres, have become interested in research and development and clinical applications of rehabilitation technology for problems of disability and improving the quality of life for disabled persons. The principal federal funding agency is the National Health Research and Development Program of the Department of National Health and Welfare. More recently greater priority has been given to support of research on prosthetic devices and technical aids.

Medical Rehabilitation Services for Special Groups: Handicapped Children

In all provinces separate medical and social services have been established for handicapped children by public health and voluntary organizations to accommodate the usually congenital conditions of the children and their changing developmental needs from infancy through adolescence. All children with defects serious enough to impede growth need special services, as do their parents to enable them to become therapists.

A. Development

Separate hospitals for children in Canada were first established in 1875 in Toronto, followed early in the century by Montréal, Halifax and Winnipeg. Orthopedic clinics and tuberculosis preventoria were among the earliest rehabilitation facilities for handicapped children. After World War I local service clubs and the Canadian Red Cross initiated community services for crippled children in Ontario, Alberta, Manitoba and Québec, and the Canadian Council for Crippled Children was formed in 1937.

After World War II both public and voluntary agencies broadened their scope to include educational and social goals as well as rehabilitation. Federal funding increased and voluntary agencies proliferated, many concentrating on a particular disability group. Comprehensive provincial vocational rehabilitation programs developed and linked services for handicapped children with those for disabled adults, while integration of services was also occurring at the provincial and voluntary levels.

Federal financial support for the training of rehabilitation personnel and the extension and improvement of rehabilitation facilities has contributed to significant progress since the mid-1950's, as have improved casefinding, the development of disability registries, and the introduction of Salk vaccine.

In the 1960's a main focus was on children severely disabled by thalidomide, and on the extension of special clinics for junior amputees and several other conditions such as diabetes. Hospital and medical insurance plans removed most of the remaining financial barriers to medical rehabilitation.

During the past decade services for handicapped children have improved in quality and coverage. Emphasis has moved toward multiple handicaps causing developmental delays, and the integration of developmentally delayed children into regular day care services involving parents in training and treatment, particularly in Alberta, British Columbia and Ontario. A recurrent theme of the rehabilitation movement has been normalization of handicapped children, and a demand that they enjoy the same opportunities and rights as other children.

B. Organization

Public programs for handicapped children are primarily organized by provincial departments of health, education and social services in children's hospitals, rehabilitation centres and special clinics, with support from research agencies and the professional and technical training centres. Some provinces operate such back-up services as genetic counselling and speech and occupational therapy, and financial aid.

No province has achieved a model program of coverage and standards for disabled children, and voluntary agencies at the national, provincial and community levels carry significant responsibilities. In seven provinces voluntary societies coordinate generalized services for handicapped children to complement and supplement public prevention, treatment and rehabilitation services. Voluntary agencies provide public education and various social, recreation and transportation services, and serve as pressure groups. Many voluntary health agencies serve children with specific disabilities. Their principal sources of funds are the voluntary Easter Seal and March of Dimes campaigns, and government support grants.

C. Extent of Disability

Although specific national data on the incidence of disabling conditions among children in Canada are lacking, there are some limited indicators with projective value. In 1976, based on data collected in five provinces, their rate of congenital anomalies for the first year of life was estimated at 3.4 per cent of all live births in Canada or 12 542 cases. The rate of functional disability is somewhat lower. As of December 1978 the blind population aged less than 20 on the registry of the Canadian National Institute for the Blind totalled 2806. The Central Case Registry of the Ontario Society for Crippled Children had records of 23 280 physically handicapped children under age 18 in 1978.

D. *Disability Registries*

The British Columbia Health Surveillance Registry comprises congenital anomalies, genetic defects and virtually all types of disability and chronic handicapping conditions, and covers all ages. The Registry uses multiple sources and codes disabilities to conform with the International Classification of Diseases. Population coverage varies by type of disability and age. The Registry is very useful for planning and research.

The Alberta Department of Social Services and Community Health has operated a Registry of Handicapped Children and Adults since 1963 and has served as a referral, information and research centre.

E. *Prevention*

Prenatal diagnosis of genetic disease and genetic counselling services have become increasingly available, as well as other measures to prevent infant prematurity and low birth weight, and to protect high risk mothers and babies from birth injuries. In addition, the monitoring of pre-school children permits early treatment and reduces the burden of handicap. All provinces carry out some screening of newborn babies for inborn errors of metabolism and have programs for these and other inherited conditions. Scoliosis screening of girls has been carried out in Saskatchewan and British Columbia.

Other abnormalities among infants and pre-school children are screened at "child health conferences" of public health nursing services, day care centres and kindergartens, but there is no adequate program of diagnosis of visually, hearing-and speech-impaired children until they enter the school system

F. *Treatment Facilities and Programs*

All provinces except New Brunswick and Prince Edward Island have one or more children's treatment centres, and Ontario has a decentralized system of 17 treatment centres for handicapped children. British Columbia has a number of "child development centres" established by cerebral palsy societies which depend on volunteer staff and voluntary financial aid.

In Québec, Alberta, British Columbia and Saskatchewan comprehensive rehabilitation services for children are centralized in one or two principal cities; in the remaining provinces there is only one provincial treatment and rehabilitation centre for children.

Rehabilitation programs offered by children's hospitals and rehabilitation centres tend to be complementary. Hospitals typically carry out diagnosis, assessment and treatment, and in many cases programs are multidisciplinary. To an increasing extent, use is made of ambulatory programs and hospitals are involving parents in treatment. Hospitals also provide social services, psychology, psychiatry and tutoring and recreational programs.

Rehabilitation centres provide longer-term training programs and restorative services, prosthetic and orthotic services and technical aids, and vocational counselling and vocational rehabilitation programs. Multidisciplinary assessments are carried out, and many handicapped children are kept under supervision throughout adolescence.

G. *Provincial Programs*

Because of the wide range of services required by handicapped children, jurisdictional barriers are difficult to surmount. Most provincial governments have established inter-departmental committees which have resulted in improvements, but no province has a comprehensive and fully integrated program. The involvement of the voluntary agencies further complicates the coordination of program planning, management and evaluation. Some success in bringing together the voluntary and government agencies concerned with disability and rehabilitation has been achieved by Saskatchewan and British Columbia, and in spite of the problems several provinces provide reasonably good coverage. It is feared that provincial rehabilitation services are less available to native disabled children for many reasons.

Alberta has operated a Handicapped Children's Service since 1974 to provide all possible assistance to handicapped children, such as special equipment, dental care, therapy and medical treatment, home adaptations, individualized training programs, and home support services. In addition, the Alberta Registry for Handicapped Children and Adults coordinates referrals for proper services, including free specialized clinics, and ensures coordinated treatment and follow-up.

The Ontario Society for Crippled Children in cooperation with local societies and hospital clinics carries out a comprehensive, province-wide program of treatment and rehabilitation for handicapped children. The Society sponsors annual diagnostic and consultant clinics and camping programs. The Central Case Registry provides information about children being served. District rehabilitation centres typically offer individualized and group programs, and in some centres parent-infant groups meet with team members for treatment and discussion. Some severely handicapped children in Ontario who require a long-term institutional program may receive rehabilitation, education, recreation and care at the Bloorview Children's Hospital in Toronto.

In British Columbia voluntary organizations, supported by government grants, have extended to outlying towns and districts their programs of specialized treatment, rehabilitation and auxiliary services including transportation, camping, loans and technical and financial aid. Specialized treatment centres, specialized rehabilitation programs and outpatient centres assist children with handicaps affecting development. Casefinding, referral and surveillance are carried out by Health units in cooperation with the British Columbia Health Surveillance Registry. Speech and hearing services are provided by the Ministry of Health. Handicapped children in need of longer-term rehabilitation are admitted to one of two hospitals for children.

Medical Rehabilitation Services for Special Groups: Injured Workers

In each of the 10 Canadian provinces a *Workers' Compensation Act* administered by a Board or Commission provides for compensation, medical care and rehabilitation for workers injured in industry or affected by occupational disease. Over 85 per cent of the labor force is covered under a system of collective liability in which employers contribute to Accident Funds, out of which the costs of medical aid are paid. Boards may adopt any vocational measures and most employ rehabilitation counsellors.

Because of the lack of adequate rehabilitation facilities in the community independent rehabilitation centres for injured workers have been established in Ontario, British Columbia, New Brunswick and Alberta, while the other six provinces depend on community hospital, medical and restorative services. All provinces use local rehabilitation facilities for prompt treatment, and certain types of disability are referred to specialized facilities.

A. *Development*

Industrial rehabilitation began in Canada in Ontario in 1924, and developed during the next 25 years. In the other provinces integration of physical and vocational rehabilitation services came later, mainly after World War II. Early emphasis on exercise therapy and other activities prescribed to improve functional skills were later augmented by new methods of psychological assessment, work testing and conditioning, job assessment and pre-vocational training. Employers have cooperated in making selective job placements to make use of the workers' capabilities.

B. *Provincial Programs*

The Medical Services Division of the Ontario Workmen's Compensation Board is responsible for the operation of the Hospital and Rehabilitation Centre at Downsview, with both convalescent and rehabilitation (self-care) beds and outpatient services. Most injured workers receive treatment from their own doctors and/or community hospitals, while the Hospital and Rehabilitation Centre provides specialized services for specific disabilities. The Centre provides a comprehensive medical-social-vocational rehabilitation program based upon a team approach. Although most patients admitted to the Centre have complex problems, over 60 per cent are employable upon discharge.

The Medical Services Division also carries out medical research on occupational diseases directed to several main areas of investigation: new surgical and diagnostic techniques, evaluation of treatment and rehabilitation procedures, the causes and prevention of occupational disease, and the usefulness of prosthetic devices.

In addition, the Medical Services Division monitors the treatment of injured workers and prepares guidelines for the payment of disability pensions.

In 1978, the Medical Services and the Vocational Rehabilitation Divisions of the Ontario Workmen's Compensation Board were separated to permit more flexibility in developing medical functions, and in decentralizing and expanding vocational services, particularly counselling and placement services.

The Workers' Compensation Board of British Columbia has established an extensive treatment and rehabilitation program at the Richmond Rehabilitation Centre, with 14 area offices in the larger towns. In 1978, 63.2 per cent of injured workers receiving assistance had returned to work by the end of the year and others received further training.

In addition to medical and vocational rehabilitation, the Board promotes industrial health and safety, and measures to eliminate industrial disease and injury. The Board carries out a number of specialized programs concerned with both treatment and prevention of disability, conducts research studies, and gives financial support for research.

At its outpatient Rehabilitation Centre in Edmonton, the Alberta Workers' Compensation Board offers specialized services for persons with amputations or orthopedic or neurological disabilities, as well as rehabilitation therapies. In 1978, nearly half the injured workers accepted for service were rehabilitated, and 85 per cent of these returned to work within seven days; others undertook further educational or vocational training. The Board also makes grants for research studies.

In New Brunswick the Workmen's Compensation Board operates the Workers' Rehabilitation Centre in Saint John, an inpatient facility for treating disabling conditions arising from industrial accidents in New Brunswick and other provinces.

The Québec Workers' Compensation Commission provides compensation, medical and hospital care, and social rehabilitation through 10 regional offices. The regional offices employ medical doctors and other paramedical personnel, and may use the services of medical specialists. The Commission has agreements with public hospitals in the Montréal area for admission of injured workers and for outpatient physiotherapy, occupational therapy and plastic surgery. Rehabilitation centres in Montréal and Québec provide more specialized treatment. A special section deals with the prevention and diagnosis of, and research into, lung disease.

The Workers' Compensation Boards in Saskatchewan, Manitoba, Prince Edward Island, Nova Scotia and Newfoundland use public hospital or independent rehabilitation facilities. Vocational rehabilitation staffs are small in relation to case loads, except in Saskatchewan, where the Canada Employment Centres are used for job placement services.

III. EMPLOYMENT-RELATED SERVICES

Employment-related services in Canada are provided by government agencies (federal, provincial, and municipal), non-governmental (non-profit) agencies and by private (for profit) agencies serving specialized labour markets. This chapter will describe the programs and services provided by governmental and non-governmental agencies.

At first it might appear that Canada has a rather complex delivery system for employment-related services. It is true that there are three main areas - federal, provincial, and non-governmental agencies. However, a good deal of interdependence or complementarity exists among these three groups. For example, the Canada Employment and Immigration Commission (CEIC), a federal agency, purchases adult training courses from provincial educational institutions. Under the provincial rehabilitation programs, services are purchased from local non-governmental agencies. Provincial Workers' Compensation Boards make use of local non-governmental agencies on a fee-for-service basis. The boards also provide Canada Employment Centres with work assessment data on all injured workers registered for employment, and use their facilities as an adjunct to the board's service without relinquishing their responsibility for the client.

This does not mean that problems of coordination and duplication of services do not exist in Canada.

Federal Programs and Services

A. *Canada Employment and Immigration Commission (CEIC)*

The Canada Employment and Immigration Commission (CEIC) is the major agency in Canada providing employment-related services. It seeks to further national economic and social goals through increased productivity of human resources, while supporting individual initiatives to earn income and gain self-fulfilment through work. Some of CEIC's sub-objectives are to improve the functioning of the labour market and reduce cyclical, seasonal, structural and frictional unemployment; assist disabled and other disadvantaged persons to improve their position in the labour market, and to promote the productive use of human resources not currently employed by the economy.

To meet these objectives CEIC has a wide range of programs and services serving the general public. The following is a very condensed statement of these services:

1. General Services

These are for individuals who are fully employable and who are looking for a job. The services consist mainly of providing information to the job-seeker about job vacancies and job requirements and, after a brief assessment of the client's matching qualifications, referring the client to the prospective employer. Job Information Centres and the recently inaugurated Job Bank provide local, regional and national listings of job openings.

In cases where the job opening is a considerable distance away from the client's residence, mobility assistance grants are available to facilitate job-exploration and relocation.

For CEIC's clients who lack the basic educational and skill requirements to find a suitable job, CEIC, in cooperation with the provinces and territories, provides institutional training. Also in cooperation with private enterprise, the provinces and territories, CEIC facilitates on-the-job training in industry and participates in the training of apprentices in provincially designated trades.

CEIC's operational activities are carried out mainly through some 450 Canada Employment Centres (CECs) across the country, with technical and administrative support provided through ten regional offices and the national headquarters.

The following statistics pertaining to fiscal 1978-79 indicate the magnitude of CEIC's activities: approximately 4 1/2 million people registered or re-registered for employment at the Canada Employment Centres; CECs made about 900 000 regular job placements (more than one week's duration); and almost $640 million was spent under the Canada Manpower Training Program for the training of some 286 000 adults.

2. Extended Services

There are clients who are disadvantaged in some way or another and as a result cannot promptly take advantage of general services. For these "special needs" clients to become employable, CEIC provides extended services. In addition, there is often a need for an individualized plan of action to respond to multiple employment barriers before the client's level of employability can be improved. In the categories of clients with such special needs are disabled persons.

Obviously, an individual's plan of action for increased employability will often include the provision of general services, such as referral, training or mobility, as described previously. It should be kept in mind, however, that these general, regular services, when provided as part of such an extended plan of action usually get tailored to the client's special needs, and, in this sense, become "extended". There are two programs:

Client-directed Extended Services

When a client is not readily employable, an attempt is made to identify specific difficulties. Such identification might consist of extensive counselling or the client might be referred to outside professional diagnostic services. A relatively new tool, PLACE, is steadily gaining acceptance as a means of identifying a client's specific employment barriers.

Once the client's special needs are known, they are discussed with the client with a view to his/her future employability. Various special training courses specifically designed for these clients are offered by CEIC which, when combined with other CEIC services, usually promise better prospects of employment and result in getting a job.

Outreach Program

Often, in spite of all the CEIC efforts, there are a considerable number of disadvantaged workers whom the CEIC cannot reach or for whom no employment can be found. The objective of the Outreach Program is to reach those disadvantaged workers who are isolated geographically, socially or culturally and who, as a result, would not or cannot go to the Canada Employment Centres. With the cooperation of "sponsors" from the mostly non-governmental sector, the CEIC funds work projects for groups of such disadvantaged workers.

Job Creation Program

Similarly, when no jobs can be found for groups of disadvantaged workers in the private sector, the CEIC assists these workers by funding job-creation projects through which they can be employed. The Local Employment Assistance Program, as well as the Outreach Program operate on the basis of an agreement between the CEIC and the project sponsor.

B. *Health and Welfare Canada*

Prosthetic Services: A nationwide system of manufacture, supply and delivery of prosthetic/orthotic services and personal aids, with access by the general public on medical referral, is operated by the federal Prosthetic Services of the Department of National Health and Welfare, through service centres located in the major cities. Other public prosthetic/orthotic services have been established by several provincial Workers' Compensation Boards operating separate rehabilitation centres.

C. *Veterans Affairs*

This department was vitally active in the field of rehabilitation in the early post-war period. Most of its services have now been "farmed-out" to provincial and community facilities.

Currently, the department is in the process of developing a policy to address the needs of the older population. As well, it has shifted its focus from rehabilitation to prevention.

Technically, approximately 400 000 Canadians are eligible for some form of government service under Acts administered by Veterans Affairs. Most clients still receiving rehabilitation services, however, are doing so under the terms and conditions of the Veterans' Rehabilitation Act.

At present, the department operates sheltered, non-profit workshops in Toronto and Montréal for the production of "remembrance symbols". As well, there are close ties with the Canadian Corps of Commissionaires, which is responsible for job placement of many disabled veterans in the security field.

D. Treasury Board, Public Service Commission, and the CEIC: Affirmative Action

These three departments, in consultation with other federal departments, have developed a plan of action designed to increase the employment opportunities for disabled persons within the Public Service of Canada.

The plan of action attacks barriers to employment through: (a) education and information to staffing officers, managers, and public servants in general. This involves, above all, creating an environment in which people assess the abilities of disabled applicants or fellow workers objectively, on an individual basis; (b) encouragement to departments to provide work-essential technical aids as automatically as work-essential equipment and facilities are provided to non-handicapped workers; (c) providing funds for a program within the Department of Public Works to make all buildings under its jurisdiction accessible to the handicapped; (d) examining in collaboration with the Public Service Commission the entire staffing process (including training of staffing officers and other related subjects).

CEIC is now in the process of developing a similar employment policy for the disabled worker in the private sector.

Provincial Programs and Services

Provincial governments, through agencies operating at the local level, offer a wide range of rehabilitation services for the disabled. While the costs of many of these services are shared with the Federal Government, many provincial governments also provide other services and undertake activities to enhance the welfare of disabled persons. These are financed fully by the respective provincial governments.

In regard to rehabilitation services which are cost-shared there are the following three types:

1. Vocational Rehabilitation Services

The range of services provided by the provinces includes:

Assessment and counselling services: services to determine whether the client can become capable of pursuing regularly a substantially gainful occupation and, if found capable, how this can best be accomplished.

Support services:

- tools, equipment and special clothing necessary to accept employment;
- transportation to available employment;
- maintenance allowances necessary on an individual needs basis while a disabled person is receiving assessment, restorative or training services as part of his/her program of vocational rehabilitation; and
- a trainee's travelling expenses from his/her place of residence to training and his/her return; cost of return trips at the end of term or semester and the cost of local daily transportation.

Restorative process and services:

- to correct or substantially modify an impairment to enable a disabled person to become capable of pursuing regularly a substantially gainful occupation;
- to provide services in emergency situations during rehabilitation to permit the individual to resume his/her vocational rehabilitation with little loss of time;
- medical and paramedical services not already covered by another program; and prosthetic, orthotic and other devices.

Vocational training services: Whenever possible, these services are obtained from CEIC under their Adult Occupational Training Program. If an appropriate course for the client is not available through CEIC, specialized training can be arranged by the province.

Employment placement services: Services for the placement of disabled individuals who are ready for employment are available from CEIC in cooperation with the provincial rehabilitation office. Where employment placement outside the competitive labour market is indicated, the responsibility for placement rests with the province and, if costs are involved, the Federal Government contributes 50 per cent.

Staff training and development: This involves the training of persons employed in a provincial program as counsellors or administrators to increase the efficiency of the staff and the effectiveness of the program.

Recently the provinces and territories have made increased use of cost-sharing for services related to vocational rehabilitation programs for individuals who are addicted to drugs and alcohol. As well, a trend towards an increase in cost-sharing services for the mentally ill is evident.

Statistics on provincial vocational rehabilitation services, 1978-79

Federal contributions to provinces: $31.3 million

Number of clients served: 86 260

2. Items for Special Need Clients

These are items necessary for a disabled individual to participate in rehabilitation programs. They might include prostheses, allowances for travel, housekeeping, or items necessary for participation in the rehabilitation process itself.

3. Work Activity Projects

A Work Activity Project means a project designed to prepare for entry or return to employment of persons in need or likely to become persons in need who, because of environmental, personal or family reasons, have unusual difficulty in obtaining or holding employment or in improving, through participation in technical or vocational training programs or rehabilitation programs, their ability to obtain or hold employment.

In 1977-78, there were 35 provincially approved projects covering 1800 clients, and in 1978-79 there were 1500 persons participating in 26 projects.

A. *Workers' Compensation*

Each of the 10 provinces has a Workers' Compensation Act, administered by a Board (or Commission), under which workers injured at work are entitled to compensation and a comprehensive range of rehabilitation services.

The Acts in all provinces also give a worker the right to compensation for industrial diseases, subject to certain conditions. Both the conditions and the interpretation placed on industrial disease vary from province to province. Workers are *entitled* to compensation as a matter of right regardless of whether there has been negligence on the part of the employer, the employee, or other employees. More than 85 per cent of the labour force is covered by Workers' Compensation, with only casual workers, domestics and, in some provinces, certain types of farmers excluded.

The Boards are very rehabilitation-oriented and their primary objective is to get the injured worker back to work in the shortest possible time. The full range of vocational rehabilitation is available to the injured worker. This includes medical and psychological assessment and services, prostheses and technical aids, work assessment, training and educational programs, vocational assessment and counselling, and direct help in finding a job. The hope is that the worker will be able to return to his former employer, either in the job he was in or a new one. However, there is no legal obligation for an employer to rehire an injured worker, nor is the Board obliged to find work for the worker.

In six provinces, the rehabilitation programs for injured workers depend entirely upon the public hospital, medical and restorative services, while in all provinces they utilize local hospital rehabilitation departments and centres to obtain prompt treatment. In addition, the Boards may refer certain types of disability such as spinal cord injury and amputations to special units in hospitals and rehabilitation centres. It is common practice to make use of agencies serving the blind, the deaf, paraplegics and others to assist in the worker's social and vocational rehabilitation. In several of the smaller provinces, the Boards also arrange to purchase the services of the provincial vocational rehabilitation program.

B. *Municipal Programs and Services*

Municipal involvement in the actual delivery of a broad range of social services, including vocational rehabilitation, has diminished over the last 10 years as provincial governments have established local offices to perform the delivery function. In those provinces where some involvement remains, the municipalities play only a minor role. This role consists mainly of referral and counselling, as well as the operation of Work Activity Projects.

C. *Programs and Services Provided by Non-Governmental Agencies*

Non-governmental agencies at the national, regional, provincial and local levels have historically played an important part in the delivery of services and in contributing to policy for the disabled. The major national voluntary organizations that have traditionally been involved are: the Canadian National Institute for the Blind (CNIB); the Canadian Association for the Mentally Retarded (CAMR); the Canadian Rehabilitation Council for the Disabled (CRCD); the Canadian Hearing Society (CHS); the Canadian Mental Health Association (CMHA); the Canadian Paraplegic Association (CPA); the Canadian Society for Crippled Children, and War Amputees of Canada.

Not all agencies delivering services at the local and regional level, however, are associated with a national or provincial body. Jewish Vocational Services in Toronto and

Edmonton Social Services are both examples of agencies that operate at a local level without being part of a geographically broader body. Many organizations concerned and interested in the rehabilitation and related needs of the disabled belong to the Canadian Rehabilitation Council for the Disabled (CRCD), but retain local control over service delivery.

Non-governmental agencies supplement and complement the various activities of government. Through the non-governmental sector, the interest and concerns of groups such as the disabled are given special attention. Governments are not always able to meet the particular needs of the disabled or to efficiently supply certain services to this group. Thus, the disabled client in the course of a rehabilitation program often will be served by a number of agencies.

IV. DISABILITY BENEFITS PROGRAMS

Persons having a disability may be eligible for benefits from a number of different programs under federal or provincial legislation or from private schemes. The historical development of legislation in Canada relating to disability was conditioned by the fact that, until 1964, constitutional authority in this area resided almost exclusively with the provinces. The earliest provincial legislation relating to disability was Workmen's Compensation, introduced in Ontario in 1914, and subsequently adopted by all the provinces. Provincial legislation now encompasses disability benefits, rehabilitation and compensation programs. Federal involvement in disability programs began with veterans' benefits during World War I and has now extended to Canada Pension Plan disability benefits and Unemployment Insurance sickness benefits.

Current Legislation

A. *Canada Pension Plan/Régime de rentes du Québec*

Canada Pension Plan (CPP) and "Régime de rentes du Québec" (RRQ) disability benefits are paid to contributors under age 65 who meet the contributory requirements (currently, a minimum of 5 years of CPP/RRQ contributions) and who suffer a severe and prolonged mental or physical disablement. Essentially, the disabled worker must be incapable of any gainful employment. Benefits are paid up to age 65, when retirement benefits become available. Maximum monthly benefits in 1980 are $240.58 under CPP and $330.11 under RRQ. In addition, a flat-rate monthly benefit is provided for unmarried minor children of the disabled contributors. The 1980 amount is $57.25 per child under CPP and $29.00 under RRQ. All benefits except the RRQ child's benefit are indexed annually in accordance with changes in the Consumer Price Index.

B. *Unemployment Insurance (Federal)*

An individual who has made Unemployment Insurance (UI) contributions for at least 20 of the last 52 weeks, and whose employment earnings are interrupted because of incapacity resulting from prescribed illness, injury or quarantine, is eligible for UI sickness benefits. A benefit of 60 per cent of average weekly insured earnings is payable for up to 15 weeks during the initial benefit period. The maximum weekly benefit in 1980 is $174.00. Benefits are not indexed.

C. *Veterans Pensions (Federal)*

Pensions are payable for qualified war veterans, peacetime forces and civilians who suffered injury or disease attributable to or incurred during military service and resulting in disability or death. Twenty classes are established, ranging from five per cent to 100 per cent disability based on mental or physical incapacity for normal activities. The pension amount is based on the percentage of disability; the maximum monthly benefit in 1980 is $739.71 ($924.63 for a couple). Additional allowances are available for those requiring attendance, for exceptional incapacities and for wear and tear on clothing resulting from the disabling condition. Benefits are non-taxable and are indexed to the cost-of-living.

D. *Worker's Compensation (Provincial)*

Insured workers are entitled to compensation if, as a result of work, they suffer economic, physical or psychological loss or injury. The degree of disability is based on the percentage impairment of earning capacity. Monthly benefits are paid for the period of a temporary disablement, or for life if disablement is permanent. Lump-sum payments are made for minor injuries. Benefit amount is based on degree of disablement; the maximum is 75 per cent of the gross earnings ceiling (90 per cent of net earnings in Québec). This ceiling and benefits vary from province to province.

E. *Automobile Accident Insurance (Provincial)*

Three provinces - Saskatchewan, Manitoba and Québec - provide compulsory, no-fault government automobile accident insurance, including benefits for incapacity resulting from such accidents. For example, in Saskatchewan benefits of up to $60 a week are provided for up to 104 weeks for total disability. All other provinces have some form of unsatisfied judgment fund or judgment recovery system to provide damages to people injured in motor vehicle accidents and where no damages are collectable from the responsible party.

F. *Criminal Injuries Compensation (Provincial)*

Criminal injuries compensation laws exist in all provinces except Prince Edward Island. (Nova Scotia has yet to proclaim the legislation.) Compensation is awarded for injury or death resulting from specified criminal offences. The award depends on the nature of the injury and takes into account expenses incurred, income losses and pain and suffering. The award may be a lump-sum or periodic payments, and takes into account other benefits, such as Workmen's Compensation or CPP.

G. *Social Assistance (Joint) and Other Plans (Provincial)*

Under the Canada Assistance Plan, a federal Statute, the Government of Canada pays half the cost of provincial social assistance for persons in need, including disabled persons in need. Needs are determined on the basis of the individual's income, assets and budgetary requirements. In addition to the regular social assistance benefits, some provinces provide additional benefits for the disabled. Where such special benefits fall within the needs-tested requirements of the Canada Assistance Plan, they are shared by the Government of Canada. Several provinces have special schemes that pay benefits on an income-tested basis to disabled persons. These include Alberta's Assured Income for the Severely Handicapped, Ontario's Guaranteed Annual Income Supplement and British Columbia's Guaranteed Available Income for Need program.

H. Vocational Rehabilitation of Disabled Persons (Joint)

Under the *Vocational Rehabilitation of Disabled Persons Act*, a federal Statute, the Government of Canada can enter into agreements with the provinces to share the cost of vocational rehabilitation programs for the physically or mentally disabled. Agreements have been signed with all provinces except Québec, which has no comparable program. Provisions are made for a comprehensive program of rehabilitation, including assessment, counselling and vocational guidance, remedial and restorative services, information and referral services and training and employment.

I. Blind Persons Allowance and Disabled Persons Allowances (Joint)

These two schemes are means-tested programs established in the 1950's. They are being replaced by social assistance under the Canada Assistance Plan. Only Prince Edward Island, Nova Scotia and Newfoundland still pay some benefits and these will be completely absorbed into the Canada Assistance Plan by 1981.

J. The Private Sector (Federal or Provincial)

There are many different types of sickness/disability protection available from the private sector. Most, but not all, of these plans are job-related, either provided as a fringe benefit or negotiated as part of a collective agreement. There is no federal or provincial legislation that stipulates any sickness or disability coverage *must* be provided. Sickness or short-term benefits consist of paid sick leave, and accident indemnity insurance plans. Long-term schemes consist of income replacement plans, accidental death and dismemberment plans, personal accident insurance, and disability benefits in private pension plans.

Conclusion

There are numerous programs from which people who are disabled will be able to receive benefits, if otherwise qualified. Some provide more than just cash benefits, such as rehabilitation services; others are not designed as income maintenance but rather as compensation or as insurance, but have the effect of providing income maintenance to their beneficiaries. Many programs that provide needed services to the disabled are not included here. Services are a form of income maintenance when they have the effect of increasing the net income available for consumption for a disabled person's family unit. Direct income maintenance may also be obtained as a result of judgements arising from tort liabilities (i.e., civil lawsuits arising out of injuries).

An appropriate and logical continuation of these descriptions would be to do the following:

"Stack" or build the benefits from various programs upon one another to show the total benefits that a disabled person and his family would receive on a gross and net (i.e., after taxes and offsets of benefits from one program by another) basis at various income levels. Experience demonstrates that stacking is an invaluable aid in understanding how programs are working and are interconnected; furthermore, it is absolutely essential to any policy analysis or change that may be contemplated.

Determine what benefits people actually do receive. That is, what is the incidence of coverage of the various programs and how much money do they provide to beneficiaries?

V. RESIDENTIAL CARE

Our modern industrial society, which is characterized by a high incidence of crippling accidents, chronic disease, mental illness and other impairments, together with high survival rates and longevity associated with advanced technology, has been steadily raising the number of seriously disabled persons in our midst. These include a growing segment of the population that lives to an advanced age in institutions and tends to become classified as "aged" regardless of previously existing disabilities.

Many disabled persons require institutional care at some stage of their development, recovery or rehabilitation and some require it for continuous or indefinite periods. Residential care institutions, along with hospitals and other treatment institutions, have been obliged to recognize the twin challenges of growing numbers and broadening objectives. They have done so by making dramatic advances during the period since World War II, when rehabilitation emerged as a predominant philosophy of care.

Health and Welfare Canada has commissioned a classified inventory of existing special care institutions and available services, both as a national reference and as a bench-mark in an era of progress. Provincial trends - now well established - are characterized by continuous development, so it is recognized that some of the material may already be out of date, the study by M. Bruce McKenzie, M.S.W., "*Residential Welfare Institutions and Services for the Disabled in Canada*", having been completed in March of 1980.

Definitions

For the purpose of the study, the twin concepts of "disabled person" and of "rehabilitation", which seemed to be the most applicable definitions to the study of special care institutions, have been stated as follows by the Council on Social Work Education:

- disabled individual: "... a person with a medically identifiable disability resulting in substantial impairments of social functions";
- rehabilitation: "... a process whereby a disabled individual achieves an enlargement of physical capacities, social competence and personal satisfaction".

The above criteria are appropriate to the seven principal categories of disability which were identified statistically in the report, namely the aged, physically handicapped, mentally handicapped, blind, deaf, emotionally disturbed children, and alcohol/drug addicted. Furthermore, they encompass the three basic types of care (supervisory, personal and nursing) available to the disabled in special care institutions in all provinces.

For purposes of this study, a residential care institution is defined, according to the Canada Assistance Plan definition, as a "home for special care" namely:

a) homes for the aged;

b) nursing homes;

c) hostels for transients;

d) child care institutions;

e) homes for unmarried mothers; and

f) any residential welfare institutions the primary purpose of which is to provide residents thereof with supervisory, personal or nursing care or to rehabilitate them socially.

The definition does not include hospitals, correctional and educational institutions, except for parts of hospitals that are converted to use as residential welfare institutions. However, it clearly includes those classes of institutions in which disabled persons of all ages would be living in order to receive necessary special care.

Early Developments in Canada

Under the Canadian Constitution (The British North America Act, 1867) major responsibility for providing health and social services rests with the provinces, rather than with the Federal Government in Ottawa.

The underlying conception of health and welfare in 1867, as expressed in the Act, is almost exclusively in terms of institutional care. Legislative power is allocated to the provinces, specifically with respect to "municipal institutions", "hospitals, asylums, charities and eleemosynary institutions" and "prisons in and for the province". From that simple mandate to administer specific kinds of institutions have emerged the complex systems of health and welfare organization and professional practice which we find today in the provinces.

The Government of Canada, for its part under the Constitution, was given jurisdiction over special classes such as war veterans, Indians, prisoners in penitentiaries, and sailors and passengers arriving in Canada from foreign ports. It was also assigned residual powers " ... in relation to all matters not coming within the classes of subjects assigned exclusively to the legislatures of the provinces". Under that mandate, continuous evolution of program responsibilities also has taken place, not only in relation to the assigned federal responsibilities, but also in relation to social security programs, and to joint arrangements financed in cooperation with the provinces.

During the colonial period and the early years after Confederation, public welfare, under the provisions of poor law and municipal statutes, was almost wholly the responsibility of municipalities. They were charged with the obligation of making provision for the poor of all classes, while provincial governments did little except operate jails and insane asylums. By the end of the 19th Century, when it had become apparent that certain specialized services were needed, the provinces began to enact legislation to establish institutions for the feeble-minded, aged and disabled, including hospitals for the indigent. These facilities were locally operated by municipalities and private agencies, sometimes with provincial financial support.

In the Atlantic provinces, where Elizabethan-type Poor Laws had been adopted during the colonial period, the English Workhouse had a considerable influence on the development of residential institutions. A number of municipally-operated institutions of that kind were established in Nova Scotia and New Brunswick, while Newfoundland and Prince Edward Island, having smaller populations, established central institutions administered by the provincial government. Public congregate facilities, augmented by a small number of voluntary institutions, mostly under religious auspices, remained the predominant pattern of organization until the 1960's when substantial changes began to occur. In Nova Scotia, municipal control continues to dominate - the only Canadian province where this control remains predominant.

Québec, which inherited the traditional system of monastic institutions from France, established both specialized and congregate facilities under private charity, mainly under religious auspices. They were developed widely throughout the province with little government interference until 1921, when the *Québec Public Charities Act* was passed to relieve the heavy burden on private charity which emerged following World War I. This Act, which provided systematic public support for institutional care, was extended to outside social agencies by interpreting them as "institutions without walls". A unique pattern of organization compounded of private charitable institutions, mainly religious, and state responsibility remained strongly pervasive until the 1960's. By that time, state responsibilities had increased greatly in importance and steps were being taken which resulted in the 1970's in a complete reorganization of Québec institutions under public auspices.

Ontario was less directly influenced by European traditions than the older, more easterly provinces. Legal provisions were made in the 1830's for the establishment of houses of industry by the municipalities. However, they did not develop in any number until the end of the century. Meanwhile, voluntary institutions had begun to be established by lay and religious groups in several of the larger centres. These organizations became eligible for systematic grants and subsidies from the province in 1874, conditional upon their acceptance of provincial supervision. Consequently, Ontario began early to develop a system of parallel and complementary, public and voluntary, institutions whose interaction tended to stimulate further development throughout the province. By the 1950's there was an extensive range of legislative measures governing institutional care in Ontario, being administered directly by the province or under relatively mature policies of support, control and cooperation with local authorities.

The Ontario pattern was influential in the western provinces, especially Manitoba, which also established complementary public and voluntary institutions. Saskatchewan and Alberta had relatively few citizens prior to World War II and it was only within the recent post-war period that they began to establish province-wide institutional systems.

Saskatchewan opened provincially-operated geriatric centres for the disabled in the 1950's and also began to make considerable use of the provisions of the *National Housing Act* to build voluntary or municipally-operated hostels in conjunction with public (low rent) housing projects.

During the same period, Alberta undertook to establish an extensive system of provincially-built, locally-administered senior citizens lodges. Fifty-bed institutions for able-bodied old people were built on land donated by the municipality in all larger centres in the province and administered by non-profit corporations or foundations. This project formed part of an overall system of progressive care institutions comprising nursing homes, auxiliary (chronic) hospitals and general (convalescent and acute care) hospitals, each with specialized roles in providing institutional care.

British Columbia with its mild coastal climate had to deal with relatively large numbers of disabled and elderly people in its southwestern regions. During the post-Confederation period there was considerable development in both the public and private sectors providing personal and nursing care. A provincial hospital for the insane was founded in 1872, followed by provincially-administered infirmaries for the physically disabled and a provincial home for the aged. Province-wide licensing of voluntary and proprietary institutions was established in 1937.

Recent Trends and Developments

During the post-war period, the trend throughout Canada has been towards specialized institutions and services, both for hospital care and for sheltered residential care (special care).

Within each of these broad sectors different types of institutions have multiplied. In all provinces there are now three main categories of special care provided by residential institutions, namely supervisory, personal and nursing home care. In addition, there are three main types of hospital care, namely acute, convalescent and chronic treatment, plus allied special hospitals, such as rehabilitation centres, children's hospitals and mental hospitals.

All provinces have made improvements in their legislative provisions for public support, control and supervision of special care institutions. They have provided for financial aid in constructing or upgrading special care facilities, particularly those which operate under public or voluntary auspices. In addition, they have made improved provisions for the financial support of individual residents who are eligible for public assistance or health insurance benefits. These provincial improvements have been supported by cost sharing, block funding and other contributory measures administered by the Federal Government.

Since 1956 the Federal Government has contributed half of the costs of assistance payments to residents of special care institutions under the *Unemployment Assistance Act*, and its successor the *Canada Assistance Plan* (1966). By 1977, federal contributions paid to the provinces on behalf of needy individuals residing in welfare institutions totalled over $400 million annually. The above assistance measures, together with the insured services programs under the *Hospital Insurance and Diagnostic Services Act* (1958) and the *Medical Care Act* (1966), have provided federal funds on a cost-sharing basis for individuals receiving care in both health and welfare institutions.

The operational policies which were adopted under these two complementary programs undoubtedly stimulated the process of rationalizing institutional accommodation and utilization in both fields of operation. Program boundaries, for example, between nursing homes and hospitals had to be delineated strictly for the first time in order to avoid duplication of federal payments. Federal-provincial consultations to clarify the cost-sharing eligibility of institutions in "gray areas of jurisdiction" were a prominent feature of the early administration of these agreements.

As gray areas were resolved new ones emerged from time to time as a result of further provincial innovations. The distinction between hospital and nursing home was complicated by the introduction, first in Alberta, and subsequently in Ontario and Manitoba, of insured services in nursing homes for those residents who qualified on medical grounds and met other criteria. Under these programs eligible residents were insured for the major portion of their costs - mainly care service costs - and were only required to pay a nominal daily rate (co-insurance fee) with respect to room and board costs. Legally, these nursing homes remained welfare institutions in spite of the substantial involvement of hospital insurance since the residents, being required to meet certain conditions in order to receive insured benefits, could become ineligible for benefits and thereby become eligible for public assistance. Special arrangements were made to reimburse these provinces for federal contributions which could not be claimed owing to the mixed nature of the care program.

Block Funding

Federal cost-sharing with respect to institutional care was superseded in 1977 by a system of tax concessions and per capita grants under the provisions of *The Federal-Provincial Fiscal Arrangements and Established Programs Financing Act*. This legislation had the effect of replacing the former system under which the provinces were reimbursed in the aggregate for fifty (50) per cent of actual program costs of hospital insurance, medical care and extended health care services. Under the new provisions they receive predetermined annual payments known as "block funding" payments. As part of this arrangement a grant of twenty dollars per

capita for extended health care services was made to cover federal costs pertaining to nursing and personal care institutions, except for specified costs related to room and board, clothing, comforts allowances, and non-insured health services. These latter items remain shareable under the Canada Assistance Plan subject to a ceiling, and the institutions thereby retain their status as homes for special care.

The above changes in the very nature of federal-provincial financing arrangements are significant since they reflect a current trend towards reaffirmation of provincial prerogatives, policies and priorities in the operation of institutional care programs. They also reflect positively the outcome of a 20-year period of federal-provincial cooperation in the development, reorganization and consolidation of institutional services in the provinces.

Defining Homes for Special Care (Welfare Institutions)

The basic concept underlying the term "welfare institution" is that of a home - a regular place of abode - in which the adult resident is normally expected to pay for day-to-day living expenses. Lacking sufficient resources to meet the cost of living (basic requirements or special needs) a resident could qualify under provincial law for public assistance (Welfare) as a person in need. The same principle applies to people living in their own homes. However, it does not apply to persons in hospitals, for example, where total care is provided as an insured service or universal benefit, or in correctional institutions where for obvious reasons the inmates are not expected to pay for their accommodation.

"Homes for special care" is the generic term which was introduced in federal legislation in 1956 under the *Unemployment Assistance Act* to describe a range of different types of welfare institutions for adults across Canada. The original definition included homes for the aged, nursing homes, hostels, Poor Houses, Houses of Mercy, and other facilities providing accommodation and care to persons who would not normally be receiving care in a hospital. Children's institutions were not covered since the Act was an unemployment assistance measure, but they were brought in later under the expanded provisions for care in a home for special care of the Canada Assistance Plan.

The *Canada Assistance Plan* provides for 50 per cent cost sharing with the provinces and municipalities towards the support of persons in need residing in recognized *homes for special care*, as defined earlier in the text.

Converted Institutions

Generally speaking, special care is of a long-term nature and is closely interrelated with provincial long-term health care and medical rehabilitation systems of chronic, convalescent and extended care hospitals. For that reason the definition of homes for special care envisages the transference of facilities and care responsibilities across program boundaries by recognizing hospitals or parts thereof that have been converted to welfare institutions. Most provinces took early advantage of this provision by changing certain chronic, custodial hospital facilities to nursing homes, homes for the aged or homes for the disabled, thereby transferring maintenance responsibilities to the public assistance program. Conversely, some provinces, such as B.C. and Ontario which had a shortage of chronic treatment hospitals in the 1960's, converted a number of higher grade nursing homes to provide insured chronic hospital services.

The movement towards conversion and transference grew steadily in importance until the mid 1970's, when all provinces were proceeding with large-scale reorganizations of mental institutions, T.B. hospitals and hospital schools for the mentally retarded. A major shift of

responsibilities for the care of the mentally handicapped in institutions from health to social welfare marked the culmination of a 20-year trend towards social rehabilitation and return-to-normal-community-life for many long-term mental hospital patients.

Discharge-placement programs began in most provinces in the early 1960's by transferring selected mental patients to boarding homes and other existing types of homes for special care. As the demand for placements increased suitable facilities came into short supply, together with a growing surplus of disused beds and staff in mental institutions. So the provisions for converting hospitals to homes for special care seemed to offer a ready solution to both problems. In converted facilities the standards of accommodation were generally upgraded and staff services modified in the direction of social rehabilitation while maintaining former high standards of health care. By 1977 some 30 000 beds in former provincial mental institutions had been converted to homes for special care and had become eligible for cost-sharing contributions under the *Canada Assistance Plan*.

Standards of Supervision, Accommodation and Care

Supervision of special care institutions is generally exercised through inspections and approval under provincial legislation. Standards of accommodation relate, among other things, to the type of structure and location, to equipment and facilities and to fire protection and sanitation, and also include such specifics as room temperature, meals of minimum caloric content, or the services of a registered nurse during specified hours of the day. In granting licences of approval, reliance is placed upon the reports of government-appointed inspectors, who must, in the nature of things, be allowed to exercise some discretion in making recommendations. Encouraging trends towards the upgrading of standards of both accommodation and services in homes for special care have been evident in all provinces during the past two decades.

Listing Homes for Special Care

Provision was made under the *Canada Assistance Plan Agreements* for the listing of eligible homes for special care as a prerequisite of cost sharing. This procedure resulted in the establishment of a central registry of special care institutions, which has been maintained on a comprehensive basis since 1966 by *Health and Welfare Canada*.

Since its inception, the registry has recorded a tenfold growth in the total numbers of beds in service in special care institutions in the provinces.

Federal Statistics

Annual statistics from the *Canada Assistance Plan* registry are published by *Health and Welfare Canada* under the title "Statistical Information on Homes for Special Care". In addition there is a complete inventory published under two titles:

- "Listing of Homes for Special Care by Name of Home" (alphabetical),
- "Listing of Homes for Special Care by Name of Municipality" (geographical).

Types and Levels of Care

The main types of care provided in special care facilities correspond substantially with the levels of care prescribed in homes for special care under the *Canada Assistance Plan*, and

also correspond with the types of care classification recommended by the Federal-Provincial Working Party on Patient Care Classification.

The Statistics Canada survey provides data on the number of residents who are grouped according to one of 10 principal characteristics, namely: (1) aged, (2) physically handicapped, (3) blind, (4) deaf, (5) mentally handicapped, (6) emotionally disturbed children, (7) alcohol/drug addicts, (8) delinquents, (9) unmarried mothers, (10) transients, and (11) others. The first seven of these groups are considered to come within the definition of "the disabled" as the previously defined reference group.

VI. HOUSING FOR THE DISABLED

Canada Mortgage and Housing Corporation (CMHC) was established as a Crown Corporation in 1946 and given the responsibility of administering the *National Housing Act* (NHA 1944).

The Corporation has avoided the introduction of special programs for disabled people as part of a general policy which rules that programs should be available to all Canadians. Special programs are developed, for example, to assist senior citizens, but such programs are open to all elderly and no single aspect of aging is identified.

This does not imply that the Corporation has not been active in developing housing and the environment in ways that favour the disabled. However, this work has been done by promoting barrier-free design, and by modifications to programs that have resulted in the construction of a wide variety of dwellings that are accessible to disabled people. Particularly significant work also has been done by CMHC field staff in obtaining design modifications to elevator apartments by private developers seeking assistance under insured lending programs.

For some years it has been offering financial assistance to sponsors of housing for disabled persons as well as enforcing basic standards which apply to housing qualifying for direct CMHC mortgages, or those from lending institutions which were backed by CMHC loans.

CMHC has a "start-up" grant available to serious housing sponsors to help finance systematic market research for, possible designs of and operating methods of a residential home for the physically disabled. It insists that a sponsor must provide market research proving the need for the housing. This has created problems since local groups frequently have difficulty in obtaining and providing appropriate statistics. More important than general statistics is clear identification of those interested in the accommodations. Traditionally, it may take several years of organizing effort before a non-profit group is in a position to purchase a building or go ahead with a construction program.

CMHC assisted projects to date have offered a variety of housing arrangements. Most housing has given the resident a bedroom or shared-bedroom as private space, together with space to deliver support services. To name such facilities is perhaps academic, other than to identify them, in the event that readers may wish to secure additional information with respect to their functioning. Some of these are: Participation House, Markham, Ontario; Bellwood's Park, Toronto, Ontario; Cheshire Homes, of which nine are in Ontario and one in Saskatchewan. In Winnipeg, Manitoba, an apartment building known as 1010 Sinclair, features amenity space to deliver support services to the residents; it is used for persons coming out of institutions to learn to live in an apartment by themselves. Other efforts to help individuals adjust to life

independently in an apartment were tried in Ottawa, Montréal, Thunder Bay and Toronto. In these cases, it was possible to secure units in regular apartment buildings, free of barriers, at rents-geared-to-income.

In these apartment projects, coordinators from local social agencies provided help and liaison and were a major asset; the building owners were prepared for having a number of wheelchair users in their buildings, and the sponsoring group provided continuity.

It has been and still is possible for sponsors to alter existing housing for use by a group of disabled persons. An inhibiting factor in such sponsorship is the generally low income of disabled tenants. Responsibility for ongoing administration is not easily secured and the disabled client groups need varying amounts of support in order to become actively involved. Capital grants to disabled homeowners, to adapt their own facilities to meet the needs of the disabled, are a subject for consideration at CMHC in the 1980's.

Some of these programs, including loans, were available to public sponsors, such as provinces and municipalities, while others were designed for non-profit groups such as service clubs, churches and organizations for physically disabled persons such as the Canadian Paraplegic Association and Cheshire Homes, an international organization concerned with the special housing needs of handicapped individuals.

Social Housing Programs

These programs have provided a stock of housing, including over 130 000 units of "senior citizen" public housing, appropriately designed to accommodate disabled persons. Public housing for senior citizens makes available affordable units for one- and two-person occupancy that have special design features, recognizing that some persons have physical limitations that increase with longevity as well as disability. Provision is made for storage space that eliminates the need to climb in order to get to upper shelves. Taps are designed to make things easier for hands crippled by arthritis. Wall plugs are placed waist-high, grab bars in the bathroom are located to make for easier and safer use of bathroom fixtures. Kitchens are designed to make cooking and storage less hazardous for those with physical handicaps. In the absence of private housing that is barrier-free, younger disabled residents have sometimes accepted apartments in senior citizen high-rise elevator buildings.

Funds have been provided in the form of start-up assistance, reduced mortgage rates with 10 per cent capital forgiveness, longer amortization, and, in the case of provincial and municipal sponsorship, a cost-sharing of operating loss incurred when units were rented to low-income persons on a "rent-geared-to-income" basis.

A different program assistance structure is now available for non-profit organizations and cooperatives. Assistance for non-profit and cooperative sponsors is currently calculated on the basis of a write-down of interest rate, but on the accepted capital cost of the shelter component of the project, within the maximum unit price. It is limited to the difference between the amount required to amortize capital costs of the project, at an approved interest rate up to 35 years, and the amount required to amortize the cost if the interest rate were set at two per cent. Application of this assistance will vary under certain circumstances.

Residential Rehabilitation Assistance Program (RRAP)

RRAP is intended to finance the rehabilitation of housing to a level which not only meets normal health and safety standards but will also substantially extend the useful life of the house with normal care and maintenance.

This program is extensively used by homeowners who are elderly (52 per cent are over 65 years of age). In 1976, the following provision was made to meet the needs of disabled persons: "Where a dwelling is occupied by a person or persons who are medically handicapped, modifications which improve the liveability of the dwelling should be regarded as eligible to the extent that assistance is available after basic health and safety requirements have been met".

Insured Lending

The Insured Lending Program is directed at providing market accommodation and has been used as an incentive to the private sector to build housing for disabled persons of independent means. Within the overall objectives of this program, the intent is to encourage appropriately designed institutions for the elderly and disabled. CMHC's support through this program resulted in the provision of 27 742 hostel units at a cost of $253,491,000 in the years 1970-79.

It is anticipated that the stimulus provided by the International Year of Disabled Persons (1981) will result in modifications to program policies directed at improving housing for disabled persons.

Research on Housing for Disabled Persons

The primary focus of this area of research by CMHC has been on design considerations to encourage the development of barrier-free environments. In addition, research activity has been directed at developing policy options for barrier-free housing.

Since 1968, Canada Mortgage and Housing Corporation has provided upwards of $325,000 for research projects aimed at integrating disabled persons into the mainstream of society and the expansion of affordable choices. Major areas of research have included: the development and evaluation of kitchen and bathroom designs; the extent of user satisfaction with living space arrangements, and the detailed examination of special care facilities. Research has made it clear, however, that for disabled persons, as with the elderly, shelter by itself is not always sufficient. "Beyond Shelter" is the title of a 1972 CMHC study. It verified the important role of management and social, health, recreational, and transportation services in the level of user satisfaction with their housing.

Ongoing research and analysis by CMHC staff on the housing requirements of disabled persons enables the Corporation to provide consultation on housing codes and design details to government and non-governmental organizations.

Publications on Barrier-Free Environments

During the early sixties when the Canadian Government was discussing some major social policy changes, CMHC undertook to research and publish "Housing the Elderly-Design of the Unit". It addressed design details to accommodate physical handicaps that sometimes accompany the process of aging. Since then, Canada Mortgage and Housing Corporation has published, for distribution to the public, several documents concerned with barrier-free housing. These publications were based on research undertaken by CMHC.

Four major documents are available to the public: Housing the Handicapped; Safety in the Home; Housing the Elderly and Nursing Homes and Hostels with Care Services - Design Guidelines. The publications, of which 70 000 have been distributed in the last 10 years, are directed at architects, designers, landscape architects, physical and social planners, sponsors of co-ops, non-profit and market housing.

Also, a film, "Barrier-Free Housing" was produced in 1979, by CMHC. It was aimed at developing a greater awareness of the issues involved in designing accessible housing environments. The features it illustrates are important not only to physically disabled persons but to a broad range of persons who are handicapped by their size, shape, circumstantial situations such as the need to: carry large objects, push carts, carriages or maintenance equipment. The film is available on loan or copies may be purchased in either French or English for a nominal sum from CMHC.

The architects in the film state that in their experience good design allows the provision of appropriate housing without increasing cost. Emphasis is placed on using housing as an avenue for improving the integration of disabled persons into the mainstream of society.

CMHC informational material has addressed the subjects of design of both the individual unit and the building as a whole. Also, two types of accommodation for the disabled are described:

(1) buildings that are used by the general public but are free of architectural barriers;

(2) buildings that are designed for those who require special facilities and staff to be appropriately accommodated.

In the area of prevention, the theme of accident prevention has been pursued in the publication "Safety in the Home".

One of the more promising programs of CMHC of the 1980's may be its "co-op" program. Housing for disabled persons has been incorporated, in a limited way, in cooperative developments for the public at large. Some units now exist in housing developments in Ottawa and Thunder Bay, Ontario. Residents are required to pay a low market level rental and, as part of a co-op, there is an administrative structure to support their housing needs. The mix of housing for disabled persons in a general co-op project also provides a potentially positive community environment in which to develop self-reliance and independence. It is clear, however, that while CMHC is concerned with housing, it realizes that part of the overall problem, financial and other support services, are beyond its mandate - to make housing programs useful, money and services must be included in the package. To a certain degree this is being done in some areas in Canada, where such units are available, through social services support programs which are financed by provincial and/or municipal governments. Generally, the housing programs currently available enable disabled persons to be accommodated in the mainstream of society. The challenge for the future is to provide housing units which are closely associated with the required personal support services (attendant care, homemakers, counselling, etc.) and secure the mechanism of a "total service package" for disabled persons.

The feasibility of integrated housing/care facilities has been the basis of numerous localized studies by organizations of disabled persons or those representing their interests. A very worthwhile contribution in this area is a report on "Integrated Housing" dated July 1977. The study, which was conceived four years earlier, was financed by the Department of National Health and Welfare and was produced under the co-chairmanship of Miss Patricia Falta and Mr. Gislain Cayouette; both are paraplegics. Miss Falta is an architect who has specialized in housing and environmental design for the handicapped population. Mr. Cayouette has worked extensively in the field of rehabilitation and integration of handicapped persons.

Building design for the handicapped in an ongoing concern of the National Research Council of Canada. The Council's Division on Building Research is producing excellent audio-visual material, as well as posters, booklets and articles for publicity purposes.

Building Standards

Supplement No. 5, to the National Building Code - Building Standards for the Handicapped (1977) - has been referred to in some detail in the review on "Access". It was first published in 1965 and has been updated periodically, with the latest edition expected in late 1980 or in 1981. This supplement, which is written in a form suitable for local or regional application, is mandatory only if it is legally adopted by a provincial or municipal government. It would be redundant to comment in more detail on Supplement No. 5 at this point. However, there is considerable concern amongst handicapped persons, and those representing their interests, that all too often the supplement is considered a final rather than a minimum standard.

Conclusion

Canada Mortgage and Housing Corporation has provided leadership in Canada on the issue of barrier-free accommodation. Through research, publications and program activities, it has recognized and supported housing appropriate to disabled persons. This has contributed to a broadening of shelter choices and greater opportunity for disabled persons to live in integrated housing environments. Also, officials of the Division of Building Research, and the Division of Building Design and Use, at the National Research Council are striving to promote improved housing and access for handicapped individuals.

In 1979, the Canadian Rehabilitation Council for the Disabled (CRCD), supported by a grant from Health and Welfare Canada, published a 118-page directory to "Housing and Support Services for Physically Disabled Persons in Canada", which is available from their office at Suite 2110, One Yonge Street, Toronto, Ontario, M5E 1E5.

There is a growing awareness in Canada of the need for housing design which meets the everyday requirements of disabled persons. The Ontario March of Dimes (an organization serving handicapped persons) and the Ontario Association of Architects collaborated in a conference on "Access to Awareness" in September 1979. Similar interpretative seminars are necessary in other areas in Canada, in order to sensitize designers, architects and builders, as well as government officials at all levels, to promote more accessible housing for handicapped persons.

VII. SPECIAL EDUCATION IN CANADA

Special Education and Services

Special education is the provision of special services to exceptional children, children whose mental, physical or social characteristics are such that they need special educational services or a modification of regular school practices to achieve maximum development. Such children include the gifted, the blind, the deaf and otherwise physically disabled, the emotionally disturbed and mentally retarded children, and children with learning disorders. A child may have one or several of these handicaps.

Generally, special education is provided to school-age children, although the years covered vary among the different schooling authorities. Two other issues associated with special education are: the early identification of problems before a child enters school so that remedial and special services may be provided as soon as possible, and the continuation of special education at ages beyond the school-leaving age.

In addition to the actual special education, other services are provided. These are remedial reading, consultation for teachers and pupils, diagnostic and therapeutic services for children with speech disorders, hearing aids, Braille and large-print materials and tape recorders for blind students, consultants and specialized staff in the psychological, psychiatric and social welfare services fields.

The delivery of special education is determined by the severity of the problems, the singular or multiple occurrence of handicaps, the need for early identification and the need to continue services beyond school-leaving age. Coverage and quality of special education are determined to a large extent by the availability of financing and the attitudes of the public to providing special education.

Delivery Systems in Canada

Generally, special education is delivered through the schooling system; children whose handicaps are less severe are dealt with in special classes within the schooling system, while those whose handicaps do not pose problems are integrated into the mainstream of the educational system. Other children, who are very severely handicapped or very different from normal, are handled outside the schooling system in schools for the deaf and blind under provincial departments of education, in provincial health institutions, in hospitals and by private voluntary agencies. In most situations, the schooling system is responsible for providing regular and special education to children in health, welfare, and reform institutions and for children who are ill at home and in hospital. There are cases, however, where there is little or no contact between certain exceptional children and the educational system.

Educational Systems in Canada

The *British North America Act* placed the responsibility for education under the control of the provinces. The Federal Government provides education to Indian and Inuit children, children of Armed Forces personnel and inmates in federal penal institutions. Schools in all provinces and territories in Canada are set up under a school act and are operated by local authorities responsible to provincial and territorial departments of education and to local ratepayers. Departments of education are responsible for supervision and inspection of secondary schools, provision of curriculum and school organization guidelines, approval of new courses and textbooks, production of curriculum materials, financing, teacher training and certification, regulations for trustees and teachers, research and support services. Public schools are supplemented by a system of separate schools set up by religious groups and by a number of private schools. Post-secondary education is delivered through degree-granting institutions and by colleges of arts, and science, technical and technological institutes. To cooperate on policy and to negotiate with the Federal Government, the provinces have set up an interprovincial council of ministers.

Special Education in Canada by Region

The institutions and practices relating to the delivery of special education are examined below in relation to the following regions in Canada:

> Atlantic Region (Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick); Province of Québec; Province of Ontario; and Western Region (British Columbia, Alberta, Saskatchewan, Manitoba).

A. *Atlantic Region*

Special education in the Atlantic Region is delivered in special or regular classes within the schooling system. Outside this system, blind and deaf children receive their education in provincial schools of the blind and the deaf. The Halifax School for the Blind and the Inter-provincial School for the Deaf at Amherst, Nova Scotia, accept pupils from all provinces. Prince Edward Island and Newfoundland operate schools for the deaf. All four provinces provide teaching services for sick children confined at home or in hospital. The annual education report in Nova Scotia reports on progress in that province to 1978 whereby exceptional children are integrated into co-curricular activities and the social life at school, and on the development of work experience programs leading to employment. Some progress has been made in the region in the early identification of problems among children prior to their entry into school. An interesting pertinent development occurred quite recently in Newfoundland under which services are provided to children, from birth to age six, who are mentally retarded or developmentally delayed.

B. *Province of Québec*

Since the 1960's, authorities have been guided by the principle that handicapped children and children with learning disabilities have the same right to education as "normal" children. A 1975 review of educational policies in Québec reports on the involvement of the Minister of Education in the testing, supervision and standardization of special educational services. Québec legislation obliges school commissions to provide special educational services for the six years of elementary and the five years of secondary schooling to children considered capable for such services and who are willing to enrol for these services. Pursuant to this legislation, directions by the Minister of Education have encouraged school commissions to develop educational services for different categories of students with learning handicaps and disabilities. School commissions must either provide these services directly or contract for them from other organizations. By arrangements made between the Ministers of Education and Social Affairs, the education of children in welfare institutions under the jurisdiction of the Minister of Social Affairs must be provided by the school commission in which the institution is located.

A 1976 report, entitled *l'Éducation de l'enfance en difficulté d'adaptation et d'apprentissage au Québec*, provides a comprehensive examination of special education in Québec and makes a number of recommendations to improve the development of this education.

A law passed June 1978, *Loi assurant l'exercice des droits des personnes handicapées* obliges school commissions to provide appropriate courses to young handicapped adults aged 18 to 21 that are necessary for their general and professional development.

C. *Province of Ontario*

Special education in Ontario is handled in partnership between the Ministry of Education and local school boards. School boards operate special schools, special classes or regular classes backed with special services. School boards are responsible for providing adequate diagnostic and appraisal services, professional and paraprofessional staff and information systems on teaching aids and materials. Larger school boards employ consultants on special education, use seminars and discussion groups and other assistance to help teachers of regular classes identify children with special problems and needs. Other boards have programs for identifying problems for very young children. The Ministry of Education, Special Education Branch, is responsible for policies on special education and works with teacher education and certification to develop methods of special education for all teachers and specialists.

The Ministry of Education operates three schools for the deaf, located in Belleville, Milton and London, and a school for the blind (the W. Ross McDonald School) located in Brantford. The schools for the deaf also are regional resource centres for the hearing handicapped and for local school boards. The school for the blind provides academic and vocational education and special training leading to sheltered employment. The school for the blind acts as a provincial centre for the visually handicapped and operates a training program for teachers of the blind and the deaf. The Ministry also has responsibility for the education in 13 Developmental Centre Schools for the mentally retarded, developmentally handicapped and the emotionally disturbed.

Two boarding schools for children with severe learning disabilities opened in September 1979 - one in Milton, Ontario (Trillium School), and the other for francophone children in Ottawa (Jules Léger School).

D. *Western Region*

Legislation in Saskatchewan is mandatory, requiring school boards to provide services to handicapped children. The legislation in Manitoba is mandatory for the education of retarded children, but for other "handicapped" children the legislation is enabling. In the other two provinces legislation for special education is enabling.

All provinces have developed special educational programs, remedial classes and specialized institutions for the blind, the deaf and the severely retarded. Some handicapped students receive their education in regular classes. There has been a gradual evolution in special education within the educational system by integrating as many students as possible into special classes and in regular classes supported by special services.

Services to the severely handicapped have been provided by provincial governments, through departments of education for the blind and the deaf, and through departments of health and welfare for children who are mentally retarded. Provincial authorities have encouraged local school boards to provide education to children in provincial institutions for the mentally retarded. Some larger urban schools have set up local services for the deaf and blind, and some schools are providing preschool training to prepare children for entry into regular classes.

All four provinces have legislation providing for the education of blind and deaf children. Each province has a residential school for the deaf. British Columbia alone has a school for the blind. Provinces not having a school for the blind arrange for the needed services outside the province.

The growing concern for emotionally disturbed children has focused attention on delinquent children. The most recent practice for such children in provincial institutions has been a change from an emphasis on custodial care to diagnostic and remedial treatment and maximizing educational services.

Sick and disabled children at home and in hospital are provided education by the school authorities. In Saskatchewan, for example, local school jurisdictions, in cooperation with Sask/tel and the Correspondence School, provide education for such children.

The provision of special education to gifted children is not widespread. The City of Calgary has had programs for gifted children since the 1960's. A new program started in September 1976 in Calgary. The program is basically one of enrichment in the regular classroom, using travelling personnel working directly with individual teachers, students and their parents to identify gifted children and to develop and implement appropriate activities for them.

VIII. COMMUNICATIONS AND THE PHYSICALLY HANDICAPPED

For the purpose of communications, handicapped persons do *not* form a single homogeneous group but rather they fall into numerous disability groups and sub-groups which are quite distinct one from the other in terms of their communications problems. These different problems obviously require correspondingly different, and often tailor-made solutions.

In this section, therefore, attempts are made to identify, with "broad-brush strokes", those common denominators and themes that one discerns from a review of the literature. It does not attempt to address to any great extent the communications needs and problems of the handicapped by specific disability groups.

Until recently the "state-of-the-art" has not been very far advanced. This has been due largely to a lack of basic data on the handicapped and a lack of any large-scale coordination of efforts around the world or even within individual countries - such as the United States, which is recognized as the world leader in the field. Fortunately, there is clear evidence that the "state-of-the-art" has now begun to catch up to the "space age", and great strides can be expected to be made, but with equally increasing public pressure being brought to bear by the handicapped, who are now seen as the latest "minority group".

Major Categories of Disability

A. *Various Classification Systems and Overlaps*

The categorization presented here is as follows: the visually-impaired; the hearing-impaired; the speech-impaired and the manipulation- and locomotion-impaired. A fifth category, which is a combination of one or more of the first four, is worthy of separate establishment; namely, the multiply-handicapped. These persons are deserving of a special focus all their own because of the severity of their problems, which is the direct result of the multiple factor.

1. The Visually-Impaired

This term encompasses persons with all degrees of impairment up to and including total blindness. It sometimes even includes those who are known as "print-handicapped"; that is, those who cannot access a printed page because of some other physical problem (e.g., stroke victims), although their eyesight may be adequate to otherwise enable them to read.

Technology has responded in many useful ways already for both the totally blind and those with low vision. One such example is the Optacon, which came off the production line in 1971.

To read with the Optacon a blind person moves a miniature camera along a line of print with one hand. Signals from the camera are converted into a pattern of vibrating reeds on a tactile screen, which the person "reads" with a finger of his other hand.

Other efforts, for the benefit of those who cannot use Braille, have focussed on machines which, through computer technology, turn print into speech. Computerized speech at a rate of 200 words per minute has been achieved. However, such machines are not yet perfected.

For the partially sighted, various systems and devices exist. Closed-circuit television systems are used to make ordinary print legible to persons who could only otherwise read enlarged print on paper. New electronic devices include Braille and talking electronic calculators, and compressed speech machines that allow for listening speeds up to two and a half times greater than normal speech production without change in voice pitch.

Another intriguing development is research currently being conducted in San Francisco on "talking signs", whereby signs in buildings or in the streets produce an audio-taped signal that is modulated into an infrared FM signal heard only by a person carrying a special receiver.

For the future, the most fascinating possibility of all is the direct electrical stimulation of the brain. Experiments to date have conclusively established that even when eyesight has been lost the brain's potential for vision remains intact.

2. The Hearing-Impaired

This term encompasses the entire range of hearing-impaired persons; that is, the hard of hearing to the profoundly deaf.

Historically, both in the United States and in Canada, the needs of the hearing-impaired have been seriously neglected by governments and society at large. This situation has quite rapidly changed over the past few years, with the hearing-impaired having formed a highly effective lobbying group which has already achieved considerable response from government.

There are an estimated 1.5 million persons in Canada with a degree of impairment in one or both ears - impairment severe enough to prevent full enjoyment of the audio portion of television broadcasting. Of this number, some 200 000 are considered profoundly deaf, unable to hear or understand speech at all.

For all hearing-impaired persons, but especially for the profoundly deaf, television is a less than adequate means of communication. However, research and practical projects are under way in the United States and Canada to use existing technology to make television useful to the hearing-impaired.

Three choices exist - special programming for the deaf alone, interpreting with sign language, or the provision of written captions either in "open" format for all viewers to see or in "closed captioning" format to be seen only by the hearing-impaired, using a decoder.

In Canada, the Federal Government provides community monopolies to cable television companies to distribute a package of television signals to the home in return for monthly or annual fees. In return for this right, certain obligations are imposed; one is the provision of a community, or public access channel. In Canada, 275 of these channels exist from coast to coast and community channel programmers have been at the forefront of providing special programming for the deaf and of conducting experimental programs for the deaf, such as "signed" versions of the news.

Signed programming is provided on cable to subscribers in Edmonton - where it was first tried some three years ago - Vancouver and Ottawa. These include both news and other programs. Decoders for closed captioning still being quite expensive ($220-$250), the cable programs have been presented in an "open" format on the non-commercial community channel where it would not interfere with regular commercial broadcast viewing. Both captions and "signing", if conducted extensively on open format to all viewers, including those without impairment, are considered to have a negative effect on the public; limited uses of signing on conventional television broadcasts, however, are accepted by the general public and are believed to have a positive educational effect. A commercial television station in Ottawa, CJOH-TV, has been sufficiently pleased with reaction to "signing" that a five-minute segment of its regular evening newscast is repeated with signing.

In the United States, the Public Broadcasting System PBS has conducted major experiments with captioning to hearing-impaired audiences, using Line 21 (the Television Blanking Interval), a diagonal return on the screen which is not normally used or seen but which provides a useful information transmission facility and gives viewers with a decoder a clear, uninterrupted message.

A new non-profit organization in the United States, the National Captioning Institute (NCI), has been created to caption programs on behalf of public television (PBS), ABC and NBC networks. It began operations in 1979, with revenues contributed from public and commercial broadcasters in the United States, certain private corporations and from the American Government. Captioning is expected to reach 20-25 hours weekly in 1980 and is expected eventually to become self-funding.

Health and Welfare Canada has provided some $1,000,000 over the past several years to the captioned Films and Telecommunications Program of the Canadian Association of the Deaf, the monies being used mainly for buying film rights. The Canadian Broadcasting Corporation has a committee exploring the best means of serving the deaf, and CBC has experimented with crawl captioning. CTV and the Ontario Educational Communications Authority both have given moral support to research; CTV has not yet come forward with a timetable for introduction of any special service. OECA has decoded a number of PBS programs and re-broadcast them "au clair". They have not been able to do extensive closed captioning because of costs.

Canadian Cablesystems Limited (CCL), now part of the Rogers Telecommunications group, serves more than 640 000 cable television subscribers. CCL announced in 1978 that it would fund a research agency known as the Deaf Television Research Centre, located at its Grand River Cable TV facilities in Kitchener. CCL's Toronto community programmers work with The Deaf Media Group to produce "Quiet 30", a weekly half-hour television show by and for the Toronto deaf community; topics have included consumer, tenant and legal rights and the

show, done with interpreters, appears throughout the Toronto area. The Deaf Television Research Centre is working with CCL's Toronto facilities to produce three to four hours of special programming per week; it has purchased the rights to more than 80 hours of PBS programming, as well as a number of programs from Gallaudet College, Washington.

While advances in television research, such as Telidon being designed by the Department of Communications, offer a dazzling potential for the future, "signing" and the broadcast of captioned programs over special cable television channels provides potential programming for the hearing-impaired in Canada *today*.

Areas of research now going on are not exclusively centred on the technical. Thorny items such as royalty rights for programs and union approval of special productions all require careful study. While they are not insurmountable, they merit attention.

Apart from television, currently the primary means of electronic communications available to a deaf individual is the TTY system. This abbreviation has traditionally stood for "teletypewriter". The TTY system operates on a dial-up basis over the public switched network. It is estimated that there are 15 000-20 000 TTY terminals currently in use internationally.

The inherent limitations of the traditional TTY system, however, render it less than optimal, as the terminal equipment used is incompatible with standard computer equipment and, secondly, the system makes very inefficient use of the telephone network.

The recently designed "Visual Ear", the research funding of which was provided by the Canadian Federal Government, overcomes the first problem and has the potential to overcome the second. Production and marketing of the Visual Ear is being handled under contract with Northern Telecom and the first units will appear on the market within a few months.

An innovative communications tool called RTTY, or Radio-Teletype (a logical outgrowth of the TTY system), has been providing a general news service to almost 1000 deaf persons in Philadelphia, Pennsylvania, since 1976.

Nicknamed "captioned radio", RTTY is word information that is typed out on a special, modified teleprinter located in a studio. Events of interest to deaf persons are described on these machines, using a specially coded, punched tape. The completed tapes are fed through a device that changes the punched holes in the tape to audible tones. These signals are transmitted by telephone lines to a nearby radio studio, where they are mixed with a high-frequency subcarrier capable of reaching an area within a 48.28 km to 80.46 km radius. By turning on a specially tuned home-radio receiver located near the teletype machine, the listener's TTY will respond to the signals it receives, accurately reproducing in words the messages prepared in a studio many kilometer away.

3. The Speech-Impaired

The term speech impairment is employed in a broad sense to cover all types of language, speech and voice disorders; i.e., communicative impairments where a technical aid might conceivably solve the problem or at least reduce the effect of the handicap.

Due to the fact that the speech-impaired have considerably different needs, depending upon the exact nature of their impairment, the number of persons in each sub-group in need of a certain type of technical aid is relatively small. This causes considerable economy-of-scale problems for producing and marketing possible products within any given country.

The Swedish Institute for the Handicapped, in collaboration with the International Commission on Technical Aids, Housing and Transportation (ICTA), one of the standing commissions of Rehabilitation International, initiated a project in 1975 on technical aids for the speech-impaired. The importance of ICTA's work in this area cannot be exaggerated. As a result of their efforts, they have produced a literature review of 1000 items on technical aids for the speech-impaired. A good deal of work with the speech-impaired has taken place in the United States and in Canada, which follows later under the more appropriate heading of "the multiply-handicapped".

4. The Manipulation- and Locomotion-Impaired

This category is an extremely broad one which includes all the numerous disabilities that limit a person's capacity to manipulate or move in his environment; these disabilities may be grouped into three sub-categories; deformities (including amputation), paralysis and skeletal joint destruction.

The classification is not an entirely satisfactory one for policy purposes, simply because it is so broad and heterogenous. Furthermore, this very heterogeneity accounts for the absence of any readily available prevalence statistics. This classification is somewhat useful, nevertheless, because it does serve to focus attention on certain important common denominators: the need for a wide range of highly individualized interfaces to enable such persons to control their environment as much as possible, and the need for society in general to be aware of and to remove those transportation and architectural barriers which prevent a significant percentage of the handicapped population from participating in the mainstream of social life.

While a great deal of attention is given in the literature to this category of the physically handicapped, most of it does not relate to "communications". This is not too surprising when one realizes that, of the five physical senses employed by human beings for receiving information about their environment (i.e., communication-in), only two of the senses (sight and hearing) provide almost all this information.

In recent years, however, many communications experts have been examining the potential of communications as a substitute for or alternative to transportation for even the ablebodied. Rising energy costs and a host of other factors in a period of economic restraint are causing policy planners to explore this heretofore largely untapped potential, through computer conferencing, electronic mail, etc.

As long ago as 1973, it was estimated that more than 50 per cent of the substance of social services is information exchange of one sort or another and that this can be accomplished by telecommunications. Thus, how much greater a potential and incentive ought there to be for the manipulation- and locomotion-handicapped to exploit telecommunications technology to the fullest.

5. The Multiply-Handicapped

This category, as the foregoing ones, is highly arbitrarily defined and even more heterogenous. Nevertheless, this classification system is useful for the reason that it focusses on those handicapped persons who are usually very severely disadvantaged in their communications by comparison to all other persons, including those who have only a single, though severe, physical handicap.

Theoretically, a person who is multiply-handicapped could have a combination of impairment to any two or more of his sensory or motor capacities. In practice, however, the

following instances appear to be most common: those who are deaf *and* blind; those whose speech *and* hearing is impaired; those who are non-vocal and severely physically handicapped (such as the cerebral palsied).

a) The Deaf-Blind

Persons can first go blind and then deaf, or vice-versa. Either sequence presents its own unique problems. Whichever way, however, the onset of the second loss is a major psychological trauma, because the residual sense upon which one leaned heavily has gone as well. Deprived of two senses, there is still another loss to endure - that of easy communication. Thus, deaf-blindness leads to isolation, which is worse than either deafness or blindness alone. In 1977, there were 183 persons in Ontario alone who were registered with the Canadian National Institute for the Blind as deaf-blind.

b) The Hearing- and Speech-Impaired

Persons who have originally had their hearing and lost it in later life generally do not have any serious difficulties keeping their speech intact. Those who have been deaf from birth or who went deaf at a very early age have difficulties in acquiring normal sounding speech, as so much of one's ability to articulate intelligible speech is based on learning from the feedback provided through the ear.

Some work on speech analysis to help deaf children is taking place at the City University Graduate centre in New York. Information is analyzed by a computer to see how the deaf child's speech differs from normal. The computer then synthesizes speech so that its output sounds like the child's. The characteristics of the synthetic speech can be modified until it is more understandable. Computer interaction is also being used at this centre to help children improve the syntax of their speech, again a particular problem for deaf children.

Extensive work on electronic analysis of speech has been done at Queen's University in Kingston and recorded in the March 1979 issue of the Journal of the Acoustic Society of America.

c) The Non-Vocal, Severely Physically Handicapped

Severely disabled persons having a combination of both verbal and motor impairments find communication extremely difficult, if not impossible. One alternative which is having widespread application with a growing number of disability groups is Blissymbolics, a graphic, meaning-based communication system.

In 1971, at the Ontario Crippled Children's Treatment Centre, Toronto, Blissymbols were first used as an augmentative communication medium with a small group of cerebral palsied children who lacked the motor coordination to produce functional speech. In the following few years, Blissymbol usage has spread throughout the world to countries including the United States, Great Britain, Sweden, Norway, The Netherlands, Australia, New Zealand, France and Israel. The disability groups for which Blissymbols have been utilized include the retarded, the autistic, the aphasic and stroke patients. Blissymbols, because of their simple shapes and direct reference to meaning, are learned easily and quickly by all, including children in their critical early cognitive and language development period prior to the "reading readiness" stage, after which they will eventually communicate by using the traditional alphabet.

Parallel with the spread of Blissymbolics, has been the growing contribution made to its usage by technological aids, which at first consisted of simple display boards. A need remained for a more sophisticated device which should store at least 512 symbols and provide quick access, and accommodate different degrees of disability by permitting the use of a variety of "interfaces", such as pushbuttons, joysticks, "puff and sip" switches, etc.

Most recently, work has continued at the National Research Council (NRC) on the use of an existing home television set as the display unit of a Blissymbol Terminal. The Blissymbol Terminal is the result of collaborative efforts that have occurred among the Communications Research Centre of DOC; Norpak Limited, Pakenham, Ontario; the Blissymbolics Communications Institute, Toronto; and the NRC.

Another excellent resource centre that has done considerable work, in a coordinating capacity, in the area of non-vocal communication, is the Trace Research and Development Center for the Severely Communicatively Handicapped, University of Wisconsin - Madison. This centre has produced, and keeps up-to-date, a comprehensive Resource Book that provides invaluable information, which includes an illustrated digest of non-vocal communication and writing aids and an extensive bibliography on techniques and aids.

B. Mass Media Habits of the Handicapped

Dr. Paul Licker, who conducted a study for the Department of Communications, documented the mass media habits of handicapped respondents in Montréal and Ottawa. Among his findings were the fact that respondents generally had access to radio and television, but a sizeable proportion did not have access on a regular basis to the print media. Only 3 per cent and 4 per cent of the respondents could not access television or radio respectively, while 37 per cent did not read a newspaper regularly; 50 per cent did not subscribe to a magazine and 43 per cent did not begin even one book a month.

Licker found also that television and radio consumption was quite heavy among the handicapped, with their viewing 3.5 hours of television and 3.7 hours of radio per day. Unfortunately, most of this consumption, Licker concluded, is not beneficial to the handicapped, as it serves to reinforce an already strong communication tendency of theirs; that is, of their being in a passive, receiver-only role. Licker believes that, since society casts the handicapped in a receiver role generally, the mass media, because of its heavy reinforcement of this phenomenon, cannot be regarded as serving the handicapped well.

C. Radio Reading Services for the Blind and Print-Handicapped

A special radio information service exists in the United States and also in Canada for the blind and otherwise print-handicapped (e.g., stroke victims who cannot turn pages). These services consist of FM broadcasts of a wide range of programming, such as interviews, special news for the handicapped and phone-in shows, as well as the reading of newspapers, magazines and books.

The service is unique in that it is broadcast "piggy-back" on the main FM signal of a radio station and then decoded and heard only by those having a special receiver or adapter to their regular FM set.

The first such service went on the air in Minnesota in 1969. Today, there are over 80 such services in the U.S., offered in at least 28 states. Recently, Canada's first such service began in Burlington, Ontario, over station CING-FM, in conjunction with the Oakville Public Library. The Department of Communications had urged the provision of such a service and was

instrumental in paving the policy route for this inaugural service. Some problems (e.g., copyright) remain to be solved, however, which currently are inhibiting the spread of such services more widely.

Telecommunications - Concept, Potential and some Technologies

Telecommunication is taken to mean an interactive, two-way exchange using sounds, pictures, alphanumeric symbols, or combinations thereof. The technologies may be telephone, television, radio, electronic keyboards, facsimile, electronic blackboard or holograph. With the exception of transactions conducted via electronic keyboards linked with computer memory, these telecommunications are "live".

What is special about telecommunications as it relates to the handicapped are the modifications to accommodate the physical disabilities of the users. But the systems of telecommunications in which such accommodation may be imbedded are no different from any other system. These systems are to be used by both the handicapped and non-handicapped, in a manner that makes no distinction among the communications of the people using them. For example, the blind can use the telephone equally well as the sighted, and the locomotion-impaired can use electronic keyboards equally well as the not so-impaired.

A. Potential for Rehabilitation

Larger numbers of handicapped people are demanding more vocational rehabilitation services at a time when available funds and professional personnel are in short supply. The use of telecommunications can play a major role in vocational rehabilitation, by providing an alternative to transportation, thereby enabling the handicapped to be gainfully employed at home.

In an application of interactive television (IATV), eight severely disabled people in Peoria, Illinois, took part in an experiment to provide, through an IATV system transmitted on cable television, instruction in insurance claims adjustment and in the skills required for independent living.

A program to train severely handicapped persons for work in the computer industry was recently initiated at the Woodrow Wilson Rehabilitation Center, in Fisherville, Virginia. This program will train homebound computer programmers and computer terminal operators.

Another example of communications (although not "telecommunications", in the strict sense of the word) used in a rehabilitation setting is the development of prototype equipment to interface a blind telephone operator to a Traffic Service Position System (TSPS) console. A system has been successfully tested and, as a result, two blind persons have already been placed within the Pacific Telephone System. This latter example is, of course, an instance of the handicapped being brought to the job rather than the job to the handicapped in the home.

With regard to applications, such as the first two examples presented above, which involve carrying out rehabilitation services in the homes of the disabled, it may surprise some to learn that many rehabilitation professionals have deep concern at the psychological damage which they believe may be done by such approaches.

B. Some Technologies

Telephone is well-known in its person-to-person mode, and even to some extent in its conference mode, where a group of people can converse together from a number of locations.

Recently, however, there have been significant innovations in both technologies and systems which enable very large numbers of participants to hear each other with great clarity, and which incorporate simultaneously-used visual materials.

Interactive television enables all participants to see each other in full motion and to speak synchronously; this is "live" television interaction. The television pictures are transmitted via microwave systems, coaxial cables, newer technologies such as lasers and fibre optics, and - for very long distances - satellites.

Video one-way/audio two-way enables all participants to talk together and to hear each other all the time, but the pictures are all from one source. Some medical applications of telecommunications use this mode; the patient is the subject of the video, but patient, physician and others can converse at will. In some educational applications, the teacher (and whatever students are with her or him) is seen by all, but numbers of students at several locations can speak to the teacher and to each other.

Still video/audio two-way is similar to video one-way/audio two-way except that the pictures are motionless (stills); pictures may be transmitted in both directions or one direction depending on the needs of participants, and the mode is much cheaper to operate because pictures (produced by slow-scan television, frame-grabbers, or facsimile devices) can be transmitted on ordinary telephone lines.

Interactive radio, whether transmitted on citizens' band (CB), amateur bands or FM sidebands, is similar to telephone conferencing in that all participants can hear each other, but different in the organization of the transmission facilities. Organization of interactive radio transactions is different from telephone conferencing in that only one speaker (or other sound source) occupies the frequency at a time.

Computer-assisted instruction (CAI) enables learners at keyboard terminal devices to interact directly with lessons and games programmed through a computer. Recently, homebound students in Amherst, N.Y., a suburb of Buffalo, have been able to have CAI in their own homes (and some institutions, as well) because lessons are transmitted on the local cable system in response to signals sent from the home terminals on telephone lines to the computer. A similar system is being developed at Albertson, N.Y.

Transmitting/receiving keyboards (conference mode) are linked through a computer program so as to enable all participants in the conference wherever they are situated in the world to come into and out of the conference at will. One simply calls the telephone number of the computer network, couples the keyboard terminal through the telephone lines, provides proper identification, and can then ask for messages, review the statements made in the conference over any length of time, input messages for all conferees or specific ones, determine if any other conferee is "on line", and hold a "dialogue" in ordinary language with that person.

Transmitting/receiving keyboards (access mode) are linked to computer programs which give access to files such as client records; one can review such records and also add to them from remote locations.

One can also use keyboards to enter data in research files and to use computer-programmed mathematical and statistical procedures. Keyboard terminals can receive information either as hard copy (typed) or on a cathode-ray tube or television picture tube.

C. *Computer-Assisted Learning and the Physically Handicapped in Canada*

In May of 1974, a computer-assisted learning project began in a Winnipeg elementary school, involving 55 children ranging in ages 5 to 13 in Grades 1 to 6. In the past several years, there has been some research in Canada using computers as an instructional and diagnostic tool for the handicapped - at the Vocational Rehabilitation Research Institute of Calgary, at the National Research Council and at Carleton University. Computers are also being used with children at the Ottawa Crippled Children's Treatment Centre. What makes the Winnipeg project unique, however, is that Winnipeg is the only place in Canada where classrooms of the handicapped are located within the regular school system.

Communication Aids and Devices

A. *Primary Information Sources*

Any attempt to catalogue here the existing communication aids and devices for the handicapped would be a hopeless task. Even professionals feel that there is a critical need for more documentation, better coordination and dissemination of information on existing aids, devices and techniques. Here is a listing of some primary information sources, including brief descriptions about them, to which the reader might wish to refer directly. Undoubtedly, even such a list of information sources will be incomplete, but is should provide a good starting point.

1. Canada

- The Medical Engineering Section of the National Research Council of Canada

  The Section conceived and organized a "Workshop on Communication Aids for the Non-Verbal Physically Handicapped", which was held in Ottawa in June 1977.

- The Technical Aids Committee of the Canadian Rehabilitation Council for the Disabled (CRCD)

- The Canadian National Institute for the Blind, Ontario Division

  The Ontario Division has released "A Study for the Purpose of Developing Services for Deaf-Blind Persons in Ontario". The study contains a listing of aids and devices for deaf-blind persons.

2. Europe

- "Equipment for the Disabled", Mary Marlborough Lodge, Nuffield Orthopedic Centre

  "Equipment for the Disabled" presents information to professionals involved in advising and selecting equipment for handicapped persons of all ages. The series of booklets contain a separate one devoted to "Communication". Information is provided on call bells; alarm systems; intercom systems; remote control mechanisms and systems; telephones and telephone aids; radio and television; taped, filmed or large-print books; normal or mouth page turners, and much more.

- The Information Service for the Disabled of the Disabled Living Foundation, London, England

  Bi-monthly lists covering a wide range of equipment are available.

- The Swedish Institute for the Handicapped

  The Institute has published at least two separate documents on "Technical Aids for the Speech-Impaired".

3. United States

- The Trace Research and Development Center for the Severely Communicatively Handicapped, University of Wisconsin - Madison

  The Center publishes, and keeps up-to-date, an excellent "Non-Vocal Communication Resource Book", which includes an illustrated digest and master chart of such aids and a comprehensive bibliography on non-vocal communication techniques and aids.

B. Recurring Themes

1. Cost and Cost/Benefit

Cost of communication aids is considered to be the largest single barrier to their widespread application.

In one list reviewed of 67 commercial aids for the non-vocal, severely handicapped, 16 items cost under $500; 16 cost between $500 and $1,000; 14 were between $1,000 and $1,500, and one was between $5,000 and $10,000.

In evaluating the cost of existing aids, it is important to consider the cost/benefit tradeoff between providing a child with an expensive aid or placing him in an institution for special education.

It has been estimated that in the United States institutional care presently costs $18,000 per person per year. Viewed in this way, one could well argue that it pays to rehabilitate people, regardless of the expense of aids and devices.

2. Under-exploitation

A common misconception is that the problems of the handicapped cannot be met until more sophisticated aids or technologies are developed. Dr. Paul Licker of St. Paul University, Ottawa, found, and others invariably would agree, that much greater benefit could be derived by a fuller exploitation of existing aids and technologies. One of Licker's findings was that the handicapped whom he studied averaged only one telephone call placed and one received each day.

3. Balance

Some experts feel that the potential of simple aids is often overlooked by researchers who are tempted to pursue sophisticated approaches where simple ones may suffice.

A second danger of this type lies in concentrating upon aids that are either extremely simple or extremely sophisticated. The middle range should not be neglected.

A British researcher (Stocking, 1979), who visited the United States, wondered whether the severely handicapped there are receiving too much attention, to the neglect of those larger numbers of people who are suffering with disabilities of lesser degrees.

4. Consumer Input

The disabled need to be involved in assessing their own needs and to ensure the new devices will be suitable for their use.

Two factors are important to acceptance by the handicapped of aids and devices: the extent to which such are cosmetically attractive, so as not to discourage their use; and the success with which the new aid or device extends the person's sense of body image, so that he feels integrated in space with his aid or device, much the way a non-handicapped person feels while driving his automobile, having a clearly defined sense of extended space under his easy control.

These two factors of cosmesis and extended body image cannot be truly evaluated by the professional alone. Consumer input (i.e., from the handicapped person for whom it is intended) is critical in the R&D phase.

5. Other Design Criteria

In addition to the foregoing criteria, others are important. They include portability, simplicity of operation, reliability and adaptability, applicability (over a wide range of ages and educational backgrounds), versatility, speed of communication, feedback provision, correctability, provision for hard copy, ease of maintenance and serviceability.

Current Research Activities/Resource Centres

In this section, a list (with brief descriptions) is provided of those current research activities and resource centres which were uncovered during the literature review process. It is by no means an exhaustive list.

Canada

1. Federal Involvement

a) Department of Communications

The Department of Communications has co-funded research and development on the "Visual Ear", a device which enables the speech- and hearing-impaired to use the telephone; it also has been active in policy development in radio reading services for the blind and print-handicapped; sponsored research at St. Paul University, Ottawa, and in the future will remain active in social policy formulation to promote access by the handicapped to the same information and entertainment as the non-handicapped.

b) The Department of National Health and Welfare (NH&W)

National Health and Welfare provides research funds in this general area through the Health Research and Evaluation and National Welfare Grants. The Department has also

participated in some research projects through the Vocational Rehabilitation of Disabled Persons Research fund. Also, there is a number of reference documents available in the Social Services Resource Centre. The Resource Centre contains documents which have not been published or which are out of print, with special emphasis on the social services aspects of rehabilitation. In addition, a Bureau on Rehabilitation in the Social Service Programs Branch has been established to coordinate the Federal Government input to both the XIVth World Congress of Rehabilitation International to be held in Winnipeg in June 1980 and the International Year of Disabled Persons in 1981.

c) The National Research Council (NRC)

The NRC has been active in bioengineering research and development for 25 years. Initially it was involved in pioneer work regarding aids for the blind. The establishment of a Rehabilitation Technology Unit in Toronto can now make available highly sophisticated technical aids to handicapped persons. The Medical Engineering Section of NRC sponsored a "Workshop on Communication Aids for the Non-Verbal Physically Handicapped" in 1977, and the published proceedings are available. Currently the Medical Engineering Section is supervising a contract with Norpak of Pakenham, Ontario, for the development of a Blissymbol terminal using a home television as a display device. Also, the Comhandi was designed by NRC, which enables severely handicapped persons to communicate through the use of a joystick, scanning grid and a typewriter.

Of great interest and value, is a complete inventory published by NRC of bio-engineering research currently taking place in Canada. This inventory will be up-dated annually and contains information on all technical aids and devices for the handicapped, including the communications handicapped.

2. Provincial Involvement

Most provincial governments are involved in the provision of technical aids. In some instances, these aids are provided as insured or free services, e.g., Worker's Compensation Boards or Vocational Rehabilitation Services, or on a fee-for-service basis.

The Ontario Educational Communications Authority (OECA) is involved in research on television and the deaf, specifically, on closed captioning technology and programming.

3. Universities

Queen's University, Kingston, designed Enco II, which provides control of five electrical appliances which can link up with Touch Operated Selector Control (TOSC). TOSC provides control of call bell, intercom, door lock, telephone, radio, TV and recording machines for severely disabled persons. Queen's is also currently involved in a research project for the Department of Communications to identify the communications need of the hearing-impaired.

Other universities where work on rehabilitation engineering research is being conducted include the University of British Columbia, the University of Waterloo, the University of New Brunswick, and the University of Alberta. Detailed information on these activities can be obtained from the Bureau on Rehabilitation, NH&W.

The University of Western Ontario has recently produced Canada's first blind Computer Science graduate and has explored the potential of Braille facilities involving microprocessors.

4. Others

Bell Canada and Northern Telecom provide services for special needs and special equipment which can be used by persons with hearing and sight losses, chronic ear defects, speech defects and motion impairment or weakness. Bell Canada has completed the compilation of a "Directory of Telecommunication Aids for Disabled People". This Directory is publicly available.

The Blissymbolic Foundation, Toronto, in conjunction with the Ontario Crippled Children's Treatment Centre, is active in research and development of the communications needs of non-vocal, severely physically handicapped children.

The Canadian Communications Research Centre published a register of activities, some of which pertains to the handicapped.

The Canadian Rehabilitation Council on the Disabled (CRCD) is responsible for the organization of a major International Conference on Rehabilitation Engineering (ICRE) to be held in Toronto, June 1980. A Technical Aids Committee was created by the CRCD and has been in existence since 1973. The Council has a resource centre and a directory of services also. It should be noted, too, that they are responsible for the organization of the 1980 World Congress in Winnipeg.

The Canadian Telecommunications Carriers Association (CTCA) have a special National Committee on Communications of the Handicapped. The CTCA also released a policy statement on "Communications for the Physically Handicapped" in June 1977.

A Directory of Associations in Canada is published, under the direction of Brian Land, by the University of Toronto Press. This Directory includes a listing of the organizations in Canada of or involved with the handicapped.

The Kinsmen Rehabilitation Foundation, Vancouver, acts as a secretariat to the CRCD Technical Aids Committee.

Technical Aids and Systems for the Handicapped (TASH), Toronto, is a newly-established non-profit company operating under the auspices of the CRCD, handling the marketing of devices through a cooperative effort of the private sector, non-profit agencies, industry and the NCR's Rehabilitation Technology Unit.

IX. SPORTS AND RECREATION

Sport for disabled persons is a recent development in the history of sporting competition. Its growth can be traced back to post-World War II efforts at increasing the life expectancy of disabled persons and of getting them back into the mainstream of life.

From modest beginnings, games for disabled persons have matured quickly to become true athletic competitions - they have evolved from the level of rehabilitation to the level of competition. Today, participants in sporting competitions for the disabled are athletes competing on an equal basis with their peers and sharing the experiences - the joys and disappointments - common to all dedicated athletes.

The year 1967 marked the beginning of Canada's second century as a nation and it also marked the beginning of our country's real involvement in sport for the disabled. That year Winnipeg was host for the First Wheelchair Pan Am Games, and interprovincial competition was begun at the Centennial Games in Montréal.

During the Montréal Games, the Canadian Wheelchair Sports Association was formed. The Association organized the first national wheelchair games, held in Edmonton at the University of Alberta, in 1968.

The 1976 Olympiad for the Physically Disabled involved blind and amputee athletes for the first time. In the same year, blind, amputee and wheelchair athletes competed in the first Canadian Games for the Physically Disabled at Cambridge, Ontario, inaugurating the First National Blind Games, the First National Amputee Games and the Eighth Annual National Wheelchair Games. The success of blind and amputee athletes in both these events led to the formation of the Canadian Blind Sports Association and the Canadian Amputee Sports Association.

The 1977 Canadian Games for the Physically Disabled marked the second year that the three disability groups competed side by side and, as such, included the Ninth Annual National Wheelchair Games, the Second Annual National Blind Games and the Second Annual National Amputee Games.

Coordinating Committee on Sport for the Physically Disabled

A. Background

In July 1976, Honourable Marc Lalonde, then Minister of National Health and Welfare, said that $450,000 would be specifically designated to assist in the development of national sport and recreation programs for the disabled in Canada over a three-year period ending March 31, 1979.

In October 1976, the Fitness and Amateur Sport Branch invited Lou Lefaive, president of the National Sport and Recreation Centre, to chair a meeting of 13 national associations which had some involvement in sport and/or recreation for the disabled. At that time, it was recommended that, because there was no existing communication structure, the sport groups should form a coordinating committee to provide input on future direction of sport for the disabled in Canada. It was unanimously agreed that the committee would concern itself solely with sport for excellence.

B. Structure

Upon approval of this recommendation by the Fitness and Amateur Sport Branch, the following associations were invited to be members of the Coordinating Committee on Sport for the Disabled:

Canadian Wheelchair Sports Association
Canadian Blind Sports Association
Canadian Amputee Sports Association
Canadian Association for Disabled Skiing
Federation of Silent Sports of Canada

At a meeting in November 1976 of provincial and territorial government consultants responsible for programs for the disabled, it was agreed that a Coordinating Committee on Competition for the Disabled be established. At that time, two provincial government representatives (Ontario and Alberta) were appointed to this committee to put forth provincial viewpoints and to communicate with the other provincial representatives. At the first meeting of the Coordinating Committee Mr. Lou Lefaive was asked to act as chairman.

C. Objective

The objective of this committee was to look at the various aspects of competitive programs and to put forth recommendations regarding the future directions of sport opportunities for the disabled.

The committee first met in March 1977. There has been worthwhile discussion regarding competitions, international affiliations, coaching, developmental programs, training camps and funding structures. Through these meetings there has developed a cooperative approach to sport opportunities for the physically disabled, while still maintaining individuality within respective associations.

In November 1977, the committee hired a technical liaison officer, Dick Loiselle, based at the National Sport and Recreation Centre, 333 River Road, Ottawa. He is responsible primarily for technical liaison on sport for the physically disabled with existing sports governing bodies, specifically with respect to coaching, athlete development, officiating and regulations. He also acts as a coordinator of technical activities, and is responsible for technical advisory services to the national associations involved in sport activities for the physically disabled.

Through his work with the Coaching Association of Canada and the technical directors from the sport governing bodies, adaptations for the physically disabled are being added to existing coaching certification programs. These adaptations have been completed for table tennis and are now under way in wrestling, archery, skiing and swimming.

Philosophy of Sports Programs for Disabled Persons

For too long the sport program for the disabled has been viewed as part of the rehabilitation process, primarily because of the origin of sport for the disabled and the personal involvement of medical personnel.

Sport has grown at varying rates in Canada. Just as wrestling and volleyball for the ablebodied have, and continue to go through stages of development, so has sport for the physically disabled. Through these developmental periods it is important that disabled athletes are *not* considered as one group but are assessed individually, recognizing that some of the needs of the amputees, blind, deaf and wheelchair-athletes differ.

It is very important to emphasize again that there are two types of integration:

- Disabled competing, training, participating, etc., against ablebodied athletes (e.g.) shooting for wheelchair athletes, blind wrestling;
- disabled competing, training, participating, etc., against disabled athletes in separate sections, as part of one ablebodied event (e.g.) wheelchair basketball, amputee swimming.

Both types of integration would be found at the end of the continuum of service and would be viable as long as the result is fair and equal competition, training, participation etc. Until the goal of integration is reached, the National Sport Associations for the Physically Disabled must continue to facilitate competitive opportunities for the physically disabled.

Following resolutions at the May 1978 meeting of the Interprovincial Sport and Recreation Council, reports were organized to provide a consensus strategy from all provinces and territories. They covered:

- Coaching, officiating, leadership;
- Development;
- Games/championships/competitions;
- Participation development;
- Athlete support programs;
- Facilities and equipment;
- Research;
- Monitoring and evaluation;
- Information.

A. *Monitoring and Evaluation*

Many groups are involved in the monitoring and evaluation of sport and recreation programs for the physically disabled. These groups have a variety of interests and range from sport associations for the physically disabled, ablebodied sport governing bodies and rehabilitation services to all levels of government.

In addition, the Coordinating Committee/Sport for the Physically Disabled, although ad hoc in structure, also has assumed a function of monitoring and evaluating on a very informal basis. The committee, made up of representatives from the Federal Government, provincial governments and the national sport associations for the physically disabled now is in the process of evaluating its structure, role and responsibility and determining its future direction.

B. *Information*

Since 1972, the provincial government consultants responsible for programs for the disabled have met with representatives from the Federal Government, Fitness and Amateur Sport Canada to exchange information and to develop a cooperative approach toward problem areas. This method has been successful and has helped to avoid unnecessary duplication and overlapping of funding and services.

C. *Conclusions*

There has been some progress in sports for disabled persons due to the commitment and cooperation of the involved individuals, associations, and governments throughout Canada. In order to further the development of sport for the physically disabled a definite structure and progressive plan were essential. This progressive plan will eliminate duplication of effort and sporadic development. The end result will enhance the initial philosophy of "least restrictive alternative".

Symposium on Sport Integration

In September 1979, Fitness and Amateur Sport Canada convened a national symposium on Sport Integration for the Physically Disabled to discuss and initiate a proposed model for sports programs and delivery systems.

The symposium drew representatives from the national and provincial sport governing bodies for swimming, wrestling, table tennis, basketball and skiing, as well as representatives from the national and provincial sport associations for the physically disabled, and provincial government representatives.

Presentations were made and discussions on the proposed model took place. Proceedings of the symposium now are available through Fitness and Amateur Sport Canada.

Recreation

A key to the successful integration of disabled persons into the community is recreation. While not all disabled persons can or wish to participate fully in the workplace, all require much the same intellectual and physical recreation as able-bodied Canadians.

However, not all the traditional areas of recreation are available to them, either by reason of invitation, transport or access, or because of sensory impairment.

Clearly, a blind person cannot appreciate an art gallery in the same way that a sighted person can. However, special programs including tactile tours can greatly enhance their enjoyment of art.

Similarly, while a day's outing on camp trails is refreshing and stimulating to most of us, the lack of suitably graded trails would make it virtually impossible for a person in a wheelchair to commune with nature.

More and more, planners of leisure activity, from the ubiquitous church social to city, provincial and national parks planners are taking the special needs of disabled Canadians into account.

Department of the Environment

Three areas of Environment Canada responsibility most likely to be impacting on the recreation needs of disabled persons in Canada are Parks Canada, the Canadian Wildlife Service and the Canadian Forestry Service.

Specific services for disabled persons include:

- Information on the location of facilities especially designed to suit needs of the disabled;
- information for disabled persons on how best to make use of heritage resources;
- orientation on arrival at heritage areas and interpretation centres;
- special tours for deaf and/or blind persons at some locations;
- special events, such as campfire programs in campgrounds, for retarded persons; and

- especially adapted facilities such as hiking trails with reduced gradients, at some locations.

Wherever new facilities are planned, thought is being given by the Department of the Environment to meet the Department of Public Works standards for physical access. Older facilities are being retrofitted on a gradual basis.

National Inter-Agency Recreation Project

While recreation is, traditionally, a grass-roots phenomenon where disabled persons have come together spontaneously in compatible groups, more organized efforts to animate their participation have been evolving nationally since early in the last decade.

In 1974, Dr. Peter Witt of the University of Ottawa, Department of Recreation, conducted a national study which indicated that few community recreation services were available in Canada for persons with disabilities and those services which were extant tended to be segregated, special events or seasonal outings.

In 1975, in response to this situation, the Canadian National Institute for the Blind (CNIB), the Canadian Rehabilitation Council for the Disabled (CRCD), the Canadian Mental Health Association (CMHA) and the Canadian Association for the Mentally Retarded (CAMR) met with Recreation Canada officials to develop a cooperative team approach. All four associations were committed to integration and normalization of disabled persons and their joint efforts with the Government of Canada resulted in the creation of the National Inter-Agency Recreation Project.

Purpose of the NIARP was to demonstrate that four national voluntary associations could work together for a common goal, increasing the opportunities available for persons with disabilities to participate in community-based recreation programs and leisure services. The project also was designed to encourage provincial counterparts of the national agencies to work cooperatively in this direction.

Each partner agency nominated two persons to an executive committee of management and operating expenses, including basic staff and the development of an education/information program, were covered by annual grants from the Federal Government. During its four-year existence, the project initiated numerous activities promoting inter-agency collaboration. A symposium in November of 1975, "Recreation for all", held in Ottawa stimulated interest from all the provinces. When NIARP was established, the provinces of Nova Scotia, Manitoba and Alberta had formalized groups working towards integration through recreation. By 1978, each province and the Government of the Northwest Territories had an advisory council on recreation. During its four-year existence, the project reached out to involve other associations, including the Canadian Parks/Recreation Association, the Canadian Association for Health, Physical Education and Recreation, Boy Scouts of Canada, the Canadian Red Cross and others.

Canadian Parks/Recreation Association

In 1978, seeing a need for ongoing national coordination, the project participants prepared the ground for a solution by the Canadian Parks/Recreation Association creating and staffing a Committee on Recreation for the Disabled. A resolution to this effect was adopted in August of 1978 by members at CP/RA's annual meeting and the work of the NIARP project itself terminated in March of 1979.

In addition to an active ongoing educational program and relations with relevant government officials, The CP/RA's committee programs include:

- development work, now in progress, for a leisure facility planning manual, outlining the incorporation of accessible features into leisure facilities during the planning process;

- review of existing policies on leisure services and disabled persons of CP/RA municipal government recreation department members;

- development of a research project to study the status of curriculum content related to leisure and disabled persons in Canadian colleges and universities;

- development of a national Art/Essay contest for children for the summer of 1981; a program designed to encourage integration of children with disabilities into regularly scheduled summer activities; and

- a project with Fitness and Amateur Sport Canada to design adaptations to existing playground equipment, as well as designing new innovative structures which would allow both disabled and non-disabled children to play in integrated recreation environments.

Since the 1974 Witt Report, heightened awareness of the needs of disabled Canadians has resulted in a number of improvements such as: Formal policy decisions of many recreation departments that programs will be accessible to all citizens in their respective communities; an increase of year-round leisure services and opportunities for recreation for disabled persons; more barrier-free recreation facilities through new construction and retrofitting; an increase in specially-trained staff in municipal recreation departments to coordinate activities for special groups.

X. ARTS, CULTURE AND THE HANDICAPPED IN CANADA

Actual Cultural Activities of the Handicapped

A study conducted in 1977 by the Centre for Communications of the University of Ottawa reveals, through factor analysis, that the daily cultural/recreational activities of the handicapped are primarily television viewing and radio listening, then reading. This is not surprising since these activities reflect indirectly the actual isolation of many handicapped persons and their difficulty in gaining access to group activities outside their sheltered lives. Another study shows, in fact, that though these activities are the ones most commonly practised, they are felt by many as the concrete indication of their isolation and thus a measure of last resort. However, the need to develop active recreation and group recreation is a problem facing cultural action in general.

The other cultural or artistic activities are engaged in much more infrequently, or not at all. Attendance at a concert or the theatre, for example, occurs for most handicapped persons only once a year. It is even more rare for a handicapped person to go to a movie - though this is accessible to the public at large - to take part in educational activities, to practise the plastic arts (painting, sculpture, drawing), or even to play a musical instrument. The fact that these cultural activities are practised so little is related, of course, to their particular limitations; however, there is at least equally the fact that these activities would require conditions of accessibility or active participation which are now lacking.

It is in the context of the above observations that we can accurately describe the present situation regarding the access of handicapped persons to the various artistic and cultural events, and their active participation in these events.

Why Arts and Culture for the Handicapped?

The quality of the relationship of the handicapped with the rest of the Canadian society is no less important than its continuity. Arts and cultural activities constitute a unique relational tool as a result of their considerable value and the "flexible", i.e., non-functional, rapport they create among individuals and groups in general.

Attending a concert or the theatre, visiting a museum or even simply watching television represents for the handicapped, especially those who are severely disabled, both a means of distraction and especially of keeping contact with the outside world, through the valuable information provided by these sources and the personal encounters that can arise. Also, the importance of having free time, which we have already mentioned, makes artistic and cultural activities a means of compensating for the physical impossibility of having access to certain activities of normal living.

However, it is much more important to increase the capacity of handicapped persons for self-expression and creativity. This may first comprise a therapeutic activity, e.g., dancing in the case of the physically handicapped or theatre and body expression for the mentally handicapped. This is also a means for handicapped persons to make their problems and their vision of life known, as well as to regain their self-esteem, becoming again capable of an organized and creative effort. For some, this may even lead to professional activities.

Whatever the case, encouraging access of the handicapped to cultural activities and events, creating opportunities for them of activity and cultural training adapted to their needs, using the arts and culture as a therapeutic tool for their general education or specialize training, encouraging their cultural expression and creativity are the major themes of a cultural strategy that meets their aspirations and particular situation, even though these themes are very similar to those of cultural policies in general.

Where are we currently in Canada on all these points? What present action is being taken by public and private sector leaders respectively? What action could be taken in the future?

Encouraging Access of the Handicapped to Arts and Culture

The public engaged in cultural activities in general is not homogeneous: there are, in fact, different publics for different types of activities. The same is true for that particular public comprised of handicapped persons. Diversity in terms of their medical condition, education, place of origin and individual personality requires different solutions, whether for physical, technical or economic accessibility, or cultural accessibility per se.

Physical accessibility to cultural events seems to have been the object of the largest number of initiatives from the Federal Government, provinces, local authorities and, to a certain extent, voluntary non-profit associations and the private sector. But it must be emphasized that the task at hand remains considerable, especially in terms of the responsibility of governments and major cultural institutions. It is possible, however, to cite the example of the National Arts Centre in Ottawa to illustrate a few achievements that constitute the beginnings of a policy in this area, even though no policies have yet been formulated in cultural documents at either the provincial or federal level.

It is quite common to meet blind or otherwise physically handicapped spectators at the *National Arts Centre* in Ottawa. This is due to the architectural design of the building, which took into account accessibility standards for physically handicapped persons, notably the access ramp. Many physically disabled persons were invited to test accessibility of the building's facilities prior to its official opening.

Throughout Canada, there is an effort to *inform* people about the accessibility of public buildings for the physically handicapped. Special guides have been published by a large number of cities, including Victoria, Calgary, Edmonton, Regina, Saskatoon, Winnipeg, Toronto, Kimberley, Ottawa, Montréal, Québec and Halifax, as well as by the Province of Newfoundland.

The most important decision, however, remains the adoption of Supplement No. 5 to the *National Building Code* whereby all new buildings built by the Federal Government or by a federal agency must be designed according to certain rules and specifications so as to be easily accessible to various categories of physically handicapped persons. However, its application to construction in the private sector still remains haphazard. Access remains a problem, for example, in movie theatres.

At the level of *communication techniques*, a certain number of innovations have tended to encourage access of the handicapped to the arts and culture. These are the development of special aids and devices aimed at alleviating the specific problems experienced by each category of handicapped persons. Here again, those who benefit the most from these initiatives are the physically handicapped, namely the blind, deaf, deaf-mute and physically disabled of all types, both because of the actual nature of their handicap and the fact that such solutions are consistent with the possibilities inherent in technological societies.

The first innovation that must be cited is the development in the last 10 years of *books written in Braille* or recorded on *cassettes* thus enabling blind persons to have access to libraries, and *Braille floor plans* or *tape recorders* with prerecorded comments which serve to guide blind persons in museums, art galleries, historical monuments, etc.

Braille books and, to a lesser extent, recordings are found in public libraries throughout Canada thanks to the initiative of local authorities, provincial governments or private organizations for the handicapped supported by federal and provincial programs.

Technology also enables the deaf and the hard-of-hearing to benefit from certain programs of the *National Film Board*. Moreover, a project under study by the Canadian Broadcasting Corporation should result in some of its television programs being accessible to the hearing-impaired through a system of sub-titles.

Economic accessibility is one of the other problems encountered by the handicapped if they wish to have access to all types of cultural or artistic activities. Handicapped persons outside specialized institutions, which assume the responsibility for numerous costly social charges, are faced with expenditures that are not covered entirely by medical and paramedical plans. This fact is even more significant in view of the unemployment rate among the handicapped and the fact that often even those who work have low incomes, and thus very restricted recreation budgets.

Another particularly delicate problem is that of *cultural and psychological accessibility*.

On the one hand, it is necessary to create or develop among all types of handicapped persons - whatever their medical, cultural or socioeconomic history - an interest in the arts and culture in a broad sense and this can be achieved through appropriate education and animation, especially in the case of children and youth, by specialized staff trained to do this work.

On the other hand, the obstacles preventing the development of contacts between handicapped persons and the rest of society must be overcome. Through psychological intervention the handicapped must be helped to view involvement in the arts and culture both as a goal and a privileged form of activity. Also, the attitudes of society toward the handicapped must be modified; this presents numerous problems in terms of adapting general education and information systems, but is a "sine qua non" requirement.

Arts as Therapy

It is very common for rehabilitation therapies for the handicapped to include various artistic or handicraft activities which, within certain limits, enable restoration of muscular strength, coordination of movements and thus the capacity of the physically disabled for manual work. However, it is in the area of serious mental problems or handicaps that artistic experiences, i.e., drawing, painting and theatre activities, have produced the most surprising and spectacular results in connection with certain new discoveries in psychiatry.

In the last few years, there have been many therapeutic experiences in the field of arts per se. Music therapy for the mentally retarded has been initiated very recently; a spontaneous arts program for children with emotional problems has been introduced in Toronto schools by the *Toronto Arts Therapy Institute*. The *Lachine Douglas Hospital* in Montréal uses plastic arts therapy. Finally, horticultural therapy sessions have been organized by the Royal Botanical Gardens of Hamilton. These are given as examples of various activities to make the mentally ill aware of their inner personality and to help them satisfy their need for creativity and self-expression.

In addition to the Lachine Douglas Hospital experiment already mentioned, two other Montréal experiments should be noted: that of the Lethbridge Rehabilitation Centre in operation since 1974, and that of the "Fil d'Ariane" sheltered workshop.

The arts therapy program offered to patients of the *Lethbridge Centre* seeks to stimulate individual creativity through simple learning methods, principally drawing, painting and modelling. The arts therapy workshop also provides weekly visits to art galleries, museums and special events in Montréal. In addition, thanks to grants received from the Canada Council (Explorations Program) and the National Museums of Canada, a travelling exhibit of original works designed and produced by patients of the Centre was opened in October 1979 at the *Musée des Beaux-Arts de Montréal*.

Development of the Initiation and Education of the Handicapped to the Arts

In the past and until quite recently in Canada and many foreign countries, the handicapped, especially those affected from birth or early childhood, were often denied the opportunity of an education or exposure to culture received by ablebodied children. In nearly every case, handicapped children were educated in specialized institutions on a permanent basis; there were schools for blind, deaf, crippled or mentally retarded children. In the last few years, there has been an opposite trend aimed at integrating handicapped children in normal schools as much as possible.

However, the circumstances of many handicapped children remain on the whole clearly unsatisfactory compared with that of other children receiving an initiation to the arts and culture, either because the introductory programs in public schools are not extended to schools for the handicapped, or because the latter institutions are often located too far from major cultural centres. In both cases, this will continue to be to the considerable detriment of the disabled until the policy of school integration is further developed, or specific facilities for teaching these introductory programs are provided to the handicapped.

One of the best developed artistic activities in institutions (hospitals, rehabilitation centres, schools) for disabled children in Canada is *music*. Nearly three-quarters of the institutions have musical programs of different categories. Most of the institutions are involved in passive music listening programs, with three out of five also adding dance movements. There are very few institutions at which children can really study music since most of the activities are purely passive. In addition, any instruments used are mainly percussions, the guitar or the piano, whereas more complex instruments would help children to acquire true musical training through a more sustained and structured effort, providing an incomparably greater rehabilitation effect. Most of these institutions, however, have no contact with music professionals, who are unaware of the children's needs and of the best way to meet them.

Advanced Training in the Arts for the Handicapped?

In addition to the development of artistic and cultural activities as a means of recreation, animation or active therapy, as mentioned, some experiments have a more ambitious goal - to provide advanced training in art to handicapped persons with potential, thus enabling them to present their works to the public and even, in some cases, to draw enough income from their activity to make a living as professionals.

The *Art Gallery* in Winnipeg offers workshop-courses to the handicapped in cooperation with local institutions for the disabled. The staff of the Gallery has received special training for this purpose and programs with guided visits are intended especially for handicapped persons following the courses.

Amateur and Professional Creativity Among Handicapped Persons

Besides their therapeutic and educational function, artistic and cultural activities also are a means for the handicapped to exercise their creativity as do other non-professional individuals or groups in general, for whom creativity is first an expression of their own cultural identity. At the professional level, there are a certain number of artists who are handicapped, sometimes severely, though it is true they are few. The problem here is to ensure that handicapped persons with certain talents are not prevented from exercising their talent because of their particular condition.

The distinction between amateurs and professionals, as is the case everywhere in the field of artistic creativity or interpretation, is a subtle one since some activities verge on professionalism, especially when an individual artist or group first sets out.

The well-known playwright David Freeman, author of two plays ("Creeps" and "Battering Ram") noted for their dramatic impact and presented successfully in Toronto, Vancouver and New York, is severely handicapped and suffers from cerebral palsy. He made use of his experience in activity centres for the handicapped of the Winnipeg region - by emphasizing the "dark" side or the difficulties of the disabled in their emotional life - and he first presented his plays as amateur productions with handicapped actors suffering from the same illness. He is now considered a full-fledged playwright.

The plays presented by the *National Theatre of the Deaf* of Vancouver are, similarly, very professional. In Toronto theatre producer Diane Dupuy formed the *Famous People Players'* company with mentally retarded persons. This company specializes in puppet shows with black lighting and puppeteers dressed in black tights, who are "invisible" in the style of the Japanese Bunraku.

The same situation exists with handicapped painters. Some are very prolific but little known in artists' circles, perhaps due to their permanent immobility and lack of work. But here again, critics do not take the work of handicapped persons seriously and treat them with a show of paternalism. In order to deal with this situation, handicapped Canadians who paint with their mouths or feet have formed the Association for Mouth and Foot Painters and have established a mail sales service called Rehandart, through which they market their own work.

Finally, at the level of individual creativity, the case of the blind painter Ronald Satok must be singled out. Following an accident two years ago in which he lost his sight, he undertook a complete artistic reconversion in the form of a presentation combining music, dance, pantomime and slide show representing his previous works and experience. This is an example of man's ability to overcome adversity, including the threat to a career already well under way.

A Strategy for the Future

It would seem presumptuous to attempt to describe in detail a possible cultural strategy for the handicapped without a greater in-depth study of the Canadian situation, in which there are still many current experiments that are inadequately assessed. It is essential to work in close cooperation with associations that defend the interests of the handicapped. The National Voluntary Inter-Agency Recreation Project, created in 1974, assembled all of these agencies at a national symposium on the handicapped and recreation in November 1975; conclusions of this symposium should serve as the basis of any discussion on the subject of cultural activities for the handicapped. However, the preceding cursory analysis provides some general challenges.

The first concerns handicapped persons themselves. As mentioned earlier, the largest categories are those of the mobility and mentally handicapped. While fully taking into account the needs of the other groups, one must ensure that the extent of needs in these two areas is properly assessed and that activity programs are developed accordingly, especially in the case of the mentally disordered for whom artistic activities seem particularly suitable. Also, the significant number of disabled children and youth, and the possibility of effecting considerable changes in their condition because of their youthfulness, are indications that particular efforts must be made in this direction.

With regard to physical access, we have seen that though there have been improvements in public buildings there is much lacking in private facilities. In addition, the problems of economic and psychological accessibility are at least as important as those that can be resolved by improving the layout of buildings.

With regard to priorities in activities, the most advisable seem to be those that diminish the solitude of handicapped persons and enable them to engage in an activity, as opposed to those that produce a purely passive attitude, such as radio or television. Experiencing contact with the world of arts and culture can't transform the life of a person who is handicapped more than that of a person who is not.

Without attempting to present all handicapped persons as artists - and even less as professional artists - it is essential, if the arts and cultural activities are to have a therapeutic value for the handicapped, that there be an adequate number of educators, paramedical staff trained in artistic disciplines and, inversely, artists sufficiently experienced in communication and therapy techniques with the handicapped to undertake actions that are likely to be effective. Teacher training programs in the disciplines of the arts in particular should clearly indicate the existence of this type of employment.

From a broader point of view, the major artistic and cultural institutions should take fully into account the existence of the handicapped in their activity programs. More

fundamentally, cultural policies at all governmental levels should mention explicitly the needs of the handicapped and the fact they must be met, as was done for example in Sweden and since 1975 in the United States through the National Endowment for the Arts. Finally, a vigorous campaign must be undertaken to make public opinion, too inclined to rely on strictly medical institutions, aware of the need to give the handicapped their rightful place in Canadian society, either as a public of the arts and culture, or as interpreters or creators whether amateur or professional. However, changes in attitudes over the short and medium term will certainly not easily be achieved.

XI. TRANSPORTATION

Transportation services for disabled persons in Canada are a shared responsibility between federal, provincial and municipal governments. In some instances, at the local level, they are provided through private or voluntary sources. The size of the disabled population in Canada has been addressed elsewhere and it is generally recognized that the "Transportation Handicapped" (TH) comprises only a percentage of the total estimate of such disabled persons. However, in addition, it includes the aged, pregnant women and others who are not ordinarily considered disabled but who have difficulty with access to transportation modes serving the general public. A recent Canadian study indicates that out of a total population of 23 million, approximately 781 000 (about 5 per cent) have varying degrees of difficulty in using public transportation services.

During the early part of this century public transportation was confined largely to railway systems or stage coach or coastal boats. With the advent of the automobile, and later the airplane, new travel horizons were opened and this has created fatastic growth in all transportation modes in the past 35 or 40 years. Despite this growth, services for transportation of handicapped individuals has not progressed significantly until very recently. Fully integrated systems in our larger Canadian cities are not yet a reality; parallel systems serving disabled persons are not always adequate to meet the demand for service; in many instances such services are not available outside of large population centres; accessibility is a problem in relation to air, rail and bus travel. Considering that the population of Canada is expected to increase 33 per cent by the year 2000, the proportionate increase in TH persons, largely due to an aging society, will increase by 67 per cent. Transportation systems will have to gear up to accommodate the present needs and also plan in relation to growth patterns.

Jurisdictional Responsibilities

The historical development of Canada has created jurisdictional divisions in the transportation field which are reflected in the Canadian constitution, the *British North America Act* of 1867. Responsibility for international shipping and railways were clearly spelled out as falling within federal jurisdiction, as well as activities of an inter-provincial nature. Air services could not have been foreseen in the original Act, but a Supreme Court decision in 1952 (Johannsen) placed these services also within federal jurisdiction. Power to regulate inter-provincial bus service, while still technically in federal jurisdiction, has been delegated to Provincial Motor Transport Boards since 1954.

The *BNA Act* relegated "all matters of a merely local or private nature" to the provinces. This included the provision of other transportation services which, historically has come to mean primarily provincial responsibility for urban transit, automobiles, trucks and taxis. Recently, some provinces have shown interest in developing their own air services.

Another historical factor relates to the provision of ferry services in two provinces. At the time the Province of Prince Edward Island joined Confederation in 1867, special status was granted with respect to the ferry service which was essential as a transportation and communications link with the rest of Canada. Later, when Newfoundland joined Confederation in 1949, the Terms of Union provided that the Federal Government of Canada would undertake responsibility for the existing railway system. This included classifying the ferry connecting Newfoundland to the Canadian mainland as "a railway" for purposes of providing adequate transportation service. A "Roadcruiser" bus replaced the rail passenger service in the province in 1962. Other ferry services were provided on both east and west coasts by the Federal Government; on the west coast, ferry operations are the responsibility of the Province of British Columbia and the Federal Government pays an unconditional grant to the province annually, for ferry and coastal services.

Safety and Regulations

The spectacular increase in the number of automobiles in Canada since World War II precipitated the need for national safety standards. A *Motor Vehicle Safety Act* was passed in 1954 giving the Federal Government the responsibility for setting such standards for new vehicles whether manufactured in Canada or imported from abroad. The provinces were left with the responsibility for the safety of any vehicle that was modified or converted, including those for use by transportation handicapped persons. Thus, the safety of vans, automobiles, electric wheelchairs and passenger safety restraint systems are primarily a provincial matter. The Canadian Transportation Commission (CTC) is the federal agency which regulates safety, fares, tariffs (schedules or regulations pertaining to performance) and levels of service on railways under the *Railway Act*; it also regulates licensing and fare structure for air services. While responsibility for commuter rail service (Toronto, Montréal) is presumed by the Federal Government to be a provincial responsibility, a Supreme Court decision in 1968 ruled that the Federal Government has residual powers because the trains run on Canadian National and Canadian Pacific tracks and were operated by CN and CP personnel. Therefore, commuter rail tariffs are filed with the CTC.

Federal carriers include VIA Rail, a Crown Corporation created in 1977 by amalgamating rail passenger services of CN and CP. Air Canada is a federal crown corporation instituted in 1937. Transportation policy for TH persons in respect of VIA Rail has been dependent upon discretionary interpretation of the rail tariff. As an example, a handicapped individual has not been able to assert that he/she is self-reliant. This interpretation has been made by railway personnel at the point of access to the service. Wheelchair users have been lifted on board trains by VIA personnel, due to human interest and concern for a traveller, not because of any obligation to provide the service. In other instances, such TH persons have been refused access by VIA Rail. This rather chaotic, if not discriminatory, policy resulted in a complaint being filed with the Canadian Transport Commission in October 1978, by Miss Clarris Kelly, a handicapped university law student. Hearings were held and the CTC ruled that the practice of VIA Rail transporting people in wheelchairs only if they were accompanied by somebody else taking responsibility for the disabled person's comfort, was "prejudicial to the public interest" and "an affront to the dignity" of handicapped individuals. The CTC ruling means that VIA Rail must allow self-reliant TH persons in wheelchairs to travel alone, if they so wish, while continuing its present policy of giving a free ticket to a travelling companion, if one is requested. This decision by CTC in April 1980, represents a milestone in rail travel by disabled persons. VIA Rail has been given three months to train and provide porters to assist handicapped persons on and off trains at all major railway stations in Canada. It is expected that the CTC requirement for VIA Rail to provide assistance to TH individuals will also apply to Roadcruiser service since it is an extension of that provided by VIA.

Research is being conducted by VIA Rail on special lift devices that will eventually become part of new railway cars, or those that are retrofitted, as well as on the interior design which will permit a greater degree of independence by TH individuals.

Ferries

Canadian National Marine owns and operates 14 ferry services on the east coast and the Federal Government pays subsidies to many small coastal services operating in Newfoundland. Ferries generally are not accessible to passenger deck levels. TH individuals are often required to remain in automobiles since they cannot negotiate narrow, steep stairways. Many ferries are old and not conducive to retrofit. It is hoped, that as ferries are replaced, elevating devices will be included in the design in order to facilitate the travel and comfort of TH individuals.

Air Travel

Airline travel in Canada presents difficulties for TH individuals similar to those encountered by those travelling by rail. Architectural barries exist which inhibit the independence of self-reliant disabled persons. New air terminals generally incorporate accessibility features, such as ramps, telephones, washrooms, etc. Elevator service to aircraft embarkation levels has not been incorporated in the design of most terminals. Elevators are the exception rather than the rule. With greater mobility of disabled persons, and with pressures mounting from their interested organizations and sympathetic departments acting on their behalf, as well as with increasing interest in providing service by the airlines, it is expected that positive changes are imminent.

Regulations or guidelines pertaining to TH individuals are not always clear or are difficult to interpret. Such persons may have no difficulty in travelling independently on one occasion and on another are required to travel with an attendant. Once aboard an aircraft, the disabled passenger encounters difficulties with respect to accessible washrooms; the carrying of a battery for a motorized wheelchair; or the mere unsuitability of seats to accommodate certain types of disability.

The Provincial Perspective

The current situation, relating to TH individuals under provincial jurisdiction, differs significantly from province to province in Canada.

For example, in Prince Edward Island, local service for disabled persons started in 1975 through the efforts of a concerned citizen who bought and operated a wheelchair van equipped with a hydraulic lift and suitable seat belts. A year later, the service was incorporated as a non-profit organization which is supported mainly through charitable donations from the public, plus user fares. Newfoundland, Nova Scotia and New Brunswick are moving in the direction of improved service in the larger population centres. However, this recognition is coming about through the provision of grants to local organizations serving the disabled, or by such organizations providing their own funding, rather than by a government transportation policy for TH individuals.

The "Walter Callow Coach" provided the earliest service to wheelchair and other disabled users in Nova Scotia. As the name implies the bus was designed by Mr. Callow who was a disabled veteran of World War I. Due to severe burns to most of his body he spent his lifetime in Camp Hill Hospital (for veterans) in Halifax after returning from overseas. Most of this time was spent in a special bath solution which helped to ease his pain and discomfort. It was from

this limited vantage point that he kept his mind active by thinking, planning, designing ways in which he could serve others. Although he was never able to use the wheelchair coach which he designed, it was used continuously for many years to provide service to disabled persons who were institutional "shut-ins".

In contrast to this somewhat unsophisticated beginning of service on Canada's east coast, some of the most recent policy with respect to transportation of handicapped individuals has come from the west coast. The Urban Transit Authority of British Columbia was established by the provincial government in 1978 to ensure a uniform provincial policy for urban transit that provides direction and purpose to the planning of public transit systems.

A Custom Transit Services program has been developed by the Authority to guide and direct the many options which exist for the provision of transit services for the disabled. The Authority is thus authorized to respond to requests from municipalities or regional districts and to assist them in examining the feasibility of introducing a door-to-door demand-responsive service for the disabled in their community. Financial planning and technical assistance will be provided by the Urban Transit Authority, with decisions regarding service levels and fares being made at the local level.

The Custom Transit Services program is designed to ensure that no disabled individual is denied the opportunity to use community services, find employment, or visit friends solely because suitable transportation facilities are not available. For individuals with disabilities sufficiently severe that they are physically unable, without assistance, to use public transportation, every effort will be made to register them for the door-to-door service option: a parallel, NOT alternative, mode of transportation. The service known as "handy DART" is a "handy DIAL-A-RIDE" concept. Users who telephone a request for service would then have a vehicle dispatched to them as quickly as possible.

British Columbia's "handy DART" program got under way on April 1, 1980. Fares for users will be in keeping with those that apply under the regular Urban Transit Authority System which requires a fare-box revenue target of 35 per cent in the Greater Victoria and the Greater Vancouver areas. Because handicapped user fees will only be expected to produce revenues equal to 10 per cent of the total costs, special provincial grants will be provided to supplement the user fees.

A limited number of regular buses in Victoria have been equipped with platforms which lower to curb level to lift wheelchair users, or those with disabilities, onto the bus. These are regular stop buses in which the first two forward seats are equipped with special wheelchair locks and the seats immediately behind the driver are reserved for the elderly and handicapped who are not in wheelchairs. The degree to which the "handy DART" system can be integrated with this adapted bus system remains to be seen. The adapted buses are being tested during a six-month demonstration period to determine just how effectively they are functioning.

In between the two geographic areas mentioned there is a range of transportation services for TH individuals. Policies vary from province to province, but in general there are no integrated urban transportation modes. The City of Edmonton which recently installed a commuter subway system is accessible to disabled persons by elevators. The larger and older systems in Toronto and Montréal do not have such accessibility. The official policy in Ontario is to provide parallel services for the Transportation Handicapped and this appears to be what is happening in most provinces of Canada, either by way of defined policy or the manner in which the service has come into being. Similarly, there is a variation in the financial support mechanisms in many provinces, ranging upwards to 75 per cent capital cost funding, with operating deficit funding in many instances.

In 31 cities across Canada, the municipalities contract out to private operators; only the Government of British Columbia Urban Transit Authority has plans to assume responsibility for funding, planning and coordinating of specialized transportation services for handicapped persons. In Winnipeg and Brandon, Manitoba, where experimental demonstration projects are being carried out, special bus service for the handicapped is integrated with the public transit system. The same may be true in some other Canadian cities. Three provinces have legislation: British Columbia, Québec and Nova Scotia (pending). Three have policies and programs in place: Alberta, Saskatchewan and Ontario. And four provinces, - Manitoba, New Brunswick, Newfoundland and Prince Edward Island - have individual projects under way. Only the Province of Québec requires a plan and statement of intent from its major municipalities; in all other provinces, this planning is left to the voluntary initiative of the municipality. All provinces rely heavily on volunteer services and Ontario estimates that 65 per cent of all transportation services for disabled persons are volunteer.

While parallel services provide greater flexibility and door-to-door service for those who need it, experience has been that these services are unequal to general services, inadequate for full participation in urban life by the disabled population and that the charity-based services provided by service organizations are often tenuously funded. Private operators often cannot provide the management skills needed to conduct market research leading to further improvements in the field, and capital-shy operators struggle simply to break even. Expansion of services to provide a truly parallel system, which many provincial governments have promised, would require program funding, planning, market research, driver training, safety standards and inspection; few of these needs can be met without the full cooperative effort of the municipal transit authorities.

An additional problem of provincial policies on transportation of the handicapped is the lack of reciprocity for special transit users in practically all cities and provinces. The Province of Ontario anticipates that by 1981, the International Year of Disabled Persons, its policy will require such reciprocity in all special transit areas receiving provincial subsidies. Arrangements are needed to permit disabled persons to use the special services, at the subsidized rate, in any city of Canada.

Also, national policy is needed as well in adopting the international access logo as a symbol to identify handicapped drivers, parking spaces for handicapped persons, and specially reserved seats on buses.

The Federal Involvement

Financial assistance to the provinces for certain capital expenditures is being provided through the Ministry of Transport. This has been limited to such things as urban transit modes, within certain well-defined policy guidelines, and for road/railway crossings. This is in accordance with the Urban Transportation Assistance Program (UTAP) which was established in 1978.

The Minister of Transport formed an Advisory Committee in May 1979 and will be developing recommendations for the future which will hopefully improve the overall transportation of disabled persons. In November (1979) the Canadian Transportation Commission held an open meeting at which briefs were presented by national passenger carriers (VIA rail, Air Canada, etc.), handicapped individuals and/or organizations representing them, as well as by government departments. This was an attempt to get basic information on the policies, problems and transportation services available to TH individuals.

Conclusion

There appears to be recognition at all governmental levels that many improvements are required in transportation systems serving TH persons. Concomitant with this is the need to develop public policies and programs to bring order and consistency into the provision of these transportation services.

As a public service, supported by public funds, transportation systems are expected to benefit all those who contribute, including those with physical disabilities. The time has come to make public transportation services more responsive to persons with special needs. This is particularly true in today's world where mobility is an essential ingredient in our way of life. The cost of energy in the future will make this even more urgent.

XII. ACCESS TO PUBLIC BUILDINGS AND FACILITIES

The National Building Code of Canada, published by the National Research Council of Canada, was first published in 1941 and in 1977 reached its seventh edition. The code is not a law; it becomes a legal requirement only when adopted by a particular level of government. The code prescribes standards for all public buildings but does not prescribe requirements, either minimal or basic, for accessibility for handicapped persons. This problem became the object of some concern in the early 1960's and a Committee on Building Standards for the Handicapped was formed within the National Research Council. As a result, the first edition of Building Standards for the Handicapped (Supplement No. 5) was issued in 1965. This document has been revised periodically, and it is anticipated that the latest édition will be available in late 1980 or early 1981.

The first issue of Supplement No. 5 was merely a consensus of minimum requirements as seen at that time. While inadequacies still exist in the current edition, it has proven a useful document, bringing about significant changes in provisions for access to public buildings. It has become the standard upon which government buildings and their accessibility have been modelled in recent years, and, in addition, Supplement No. 5 has been adopted by most provinces or its features have been incorporated in provincial building codes relating to new construction or removal of architectural barriers.

In response to growing public pressure in the late 1960's and the early 1970's, Federal Government departments and agencies have increased commitment to dealing with the problem of access to existing federal public buildings and facilities. Public Works Canada has taken a leading role in providing barrier-free access to physically handicapped persons, since it is largely responsible for the provision and management of general office and special purpose accommodation for the Federal Government, as well as providing planning, design, construction and realty services to Federal Government institutions, departments and agencies. Of the total 20 687 000 m^2 of Crown-owned properties and 3 250 000 m^2 of leased properties, Public Works Canada administers about one-third. In its role as a landlord and accommodation provisioner, it became involved in talks with Treasury Board and with union officials during 1972 and 1973, with respect to planning facilities, both interior and exterior, for physically handicapped employees working in federal buildings. It has been general practice since 1973 for that department to apply Supplement No. 5 to the National Building Code as a standard for making all new buildings, major renovations to existing buildings, and (where possible) leased accommodation, accessible to individuals with disabilities.

Federal Employment Policy

On March 21, 1978, the Honourable Robert Andras, the President of the Treasury Board announced the government's policy with respect to employment of disabled persons in the Federal Public Service stating:

> "For physically handicapped persons, it is the policy to provide and to actively promote equal access to employment and career development in the Federal Public Service, without regard for the nature of the handicap, in work for which they are considered to be qualified, and to ensure that any barriers to such equal access, whether procedural, attitudinal or physical, are progressively elimated as quickly as possible."

Consideration for Design and Retrofit

The inclusion of special facilities to enable access in accordance with the foregoing policy does not present major problems when constructing new buildings. Additional design features only add approximately one-half of one per cent to the total project costs. Retrofitting of existing buildings, however, presents considerable difficulty. Problems occur due to inadequate space for ramps, enabling snow removal or providing access from parking lots. Older buildings are difficult and very costly to retrofit with elevating devices, or for the installation of accessible washrooms and toilet space to accommodate wheelchairs. Corridors, service counters, drinking fountains and other specific areas all constitute problems in the retrofitting of many buildings.

The present standards under Supplement No. 5, to the National Building Code, apply mainly to wheelchair users, yet the government policy on employment and access requires that facilities are designed for persons with a variety of handicaps. Such things as cafeterias, screening rooms, postal counters and lock-box lobbies are not included in Supplement No. 5. This is an example of where there is a gap between the requirements of government policy and the adequacy of the prescribed standards. This inadequacy precipitates difficulties with architects, designers, builders and others involved in new construction as well as in the areas of retrofitting.

Through regular exchange of information, between the responsible departments and agencies and with representatives of handicapped persons, standards can be clarified and improved guidelines are made possible. However, it will be difficult to assemble the information necessary to make all federal buildings accessible and useable by disabled persons by 1983, the current target date for completion.

Factors in Developing Accessibility

While the inclusion of barrier-free features at the design stage does not present a major cost factor, the complete conversion of a multiple-floor building to make it useable by a majority of disabled persons as employees would require considerable expenditure and energies and must be considered on the basis of expected use. A post office or an employment centre should be totally accessible for members of the public as well as disabled employees, but the same need not be true for infantry barracks.

For the most part, however, improvements have appeared already in the area of hardware development, accessible entrances, washroom fixtures and accessories, and vertical transit modes. Obviously, there remains much to be done in transit networks, street fixtures (such as telephone booths, lamp posts, mail boxes, etc.) and exterior accessories and equipment.

These are common culprits of accessibility since they are, more often than not, barriers in the way of handicapped persons. Sensitive designers, in and outside of government, in cooperation with product manufacturers, are generally providing solutions to problems of accessibility.

There is need for an overall approach to a barrier-free environment, beyond the problem of "street fixtures". Sidewalk curbs must be accessible to wheelchairs. Most major cities in Canada are providing sloping curb-cuts in areas of new construction and also where there is street/sidewalk renovations. This problem must be attacked with more vigour by the municipal authorities who are responsible. Parks and recreational facilities, stadiums and sports-complexes are not generally accessible and require the impetus of federal, provincial and municipal authorities to render them barrier-free.

Visually and/or hearing-impaired persons could benefit from "redundant cueing", a method of communicating a message of warning in multiple ways simultaneously - sirens, flashing lights, etc. - so it can be perceived by more than one of the senses. Surface irregularities, door operation, drinking fountains, public telephones, cafeterias, vending machines, thickness of carpets and arrangement of furniture are among the many other problems faced by disabled persons, particularly those in wheelchairs; modification would benefit other handicapped persons as well. It has been found that such modifications especially ramps, handrails, non-slip surfaces and easy door opening are well received by ablebodied delivery and service people, women with baby carriages, persons carrying bulky items, mail carriers with heavy bags, and the elderly.

Physical accessibility can lose much of its positive value if it stigmatizes the user. Design of structures and facilities should not imply that they cater to the special requirements of a few, but rather to the needs of a diverse population. Representatives of more than a dozen closely related professions - architecture, interior design, engineering, landscaping, urban and social planning - were brought together in September of 1979, to a conference on barrier-free design, by the Ontario March of Dimes and the Ontario Association of Architects in Toronto. Underlying their discussions was the conclusion that blame for inability to function effectively should be shifted from the individual to the environment, and that improvements in accessibility in public and private buildings and facilities are not to accommodate the few, but rather to make them more useful and accessible to the entire population.

Provincial Policies

Provincial policies and standards vary from province to province. It is not possible to comment in detail on each, however, it must be noted that all provinces have shown concern for the integration of disabled persons in society and are placing an increasing emphasis on accessibility.

In the Province of Québec, the matter of access has been incorporated in *an Act to secure the handicapped in the exercise of their rights.* This Act is commonly referred to as *Bill 9* and was assented to in June 1978. It requires certain public transportation companies and telephone companies to submit to the appropriate Ministers in the Province "a development program designed to ensure handicapped persons access to means of transportation and telephone service within a reasonable time". Similarly, owners of "immoveables" not subject to the Building Code are required to submit for approval a development program designed to ensure within a period of five years, accessibility to such "immoveables" for handicapped persons.

Bill 9 amends various existing laws, particularly the Chapter of Human Rights and Freedoms, "to allow the handicapped persons access to immoveables, means of transportation and telephone services".

The Municipal Code, the *Cities and Towns Act* and Charters of certain municipalities are amended to provide that the construction, reconstruction or relocation of sidewalks must be done by municipal corporations to facilitate access to them and their utilization by handicapped persons. Also, the Act establishing transit commissions is amended to compel them to set up a special transit system for handicapped persons who are unable to use the regular public transit system, or see that such a system is organized. Thus in the Province of Québec, access is becoming increasingly available in a variety of areas, precipitated by provincial law which crosses a number of legislative boundaries.

In Nova Scotia, a Bill has recently been passed in the Legislature to amend the *Building Access Act*. This amendment, when proclaimed by the Governor-in-Council, will require apartment buildings of more than eight units, constructed after January 1, 1981 to be accessible, and that bathroom and washroom doors will be a minimum of 81.28 cm wide.

In the Province of Prince Edward Island, a recently appointed Building Standards Council is considering regulations based on the National Building Code. The Cities of Charlottetown and Summerside have adopted the Code, but to date have had little occasion to enforce Supplement No. 5.

In Newfoundland municipalities may adopt the Code in whole or in part. Sixteen municipalities have done so, including those Articles detailing with requirements for the design of buildings for the physically handicapped.

In New Brunswick, municipalities are required to adopt the National Building Code where building regulations are instituted. The City of Fredericton enforces the requirements of Supplement No. 5.

In Ontario, the Provincial Building Code contains a separate Part 5 on Building Regulations for handicapped persons. Requirements for accessibility and the use of facilities are linked to a table of particular building types within a broad range of occupancies, such as Government and Office, Retail, Commercial and Residential.

In Manitoba, the provincial legislation applies Supplement No. 5 to specific occupancies. The Building Code is essentially the same as in the National Building Code, although the requirements to accommodate handicapped persons in buildings have been amended to meet provincial needs.

In Saskatchewan, the *Municipal Act* of the provinces requires individual municipalities to adopt Supplement No. 5 with respect to buildings of certain specifications.

In Alberta, there is a proposal to amend the definition of a public building to include apartment buildings of four stories or higher, as well as business and personal services buildings.

British Columbia has adopted its own building Code based upon the 1977 edition of the National Building Code and Supplement No. 5. This is the only province that has proceeded in this direction. It should be noted that the problems of access of disabled persons is dealt with in more detail and with more specific requirements than those outlined in Supplement No. 5.

In this section, access pertains primarily to buildings. Reference has been made to the need for greater access to parks and other public facilities. A few initiatives have been taken

in this regard by all three levels of government, the most noteworthy being the efforts of the National Capital Commission in Ottawa-Hull. The subject of accessibility in relation to transportation has been included in the review under that particular subject area.

XIII. RESEARCH AND DEVELOPMENT

Question: What do satellites in the sky and technical aids for disabled persons have in common?

Answer: They both represent technological achievements made possible by Research and Development (R&D) activities.

Research and Development can be defined as creative work undertaken on a systematic basis to increase the stock of scientific knowledge and technology. It includes activities both in the natural sciences (physical sciences, engineering, and life sciences) and in the human sciences (social sciences and the humanities).

Research and Development can lead to technological innovation, the process of creating technology necessary to produce new products and processes. Technological innovation, in turn, is an important, if not the most important, source of economic growth in a country.

In the economist's terms, technological innovation raises the output per unit of input and, therefore, the productivity of the enterprise. Improved productivity is one of the key elements which leads to growth in real incomes or, in other words, our standard of living.

Science Expenditures

The federal Ministry of State for Science and Technology (MOSST) has developed a statistical series on science expenditures. "Science expenditures" includes R&D and, in addition, expenditures pertaining to related scientific activities (RSA) i.e., scientific data collection, economic feasibility studies, and operations and policy studies.

The following Table gives an idea of the magnitude of science expenditures in Canada in 1978:

Table 1

Science expenditures in Canada, by funders, 1978
(millions of dollars)

Sector	Science expenditures
Government	$2,137.0
Federal	1,835.2
Provincial	301.8
Industry	741.5
University	742.9
Private non-profit institutions	51.9
Foreign	95.1
Total	$3,768.4

Almost $3.8 billion were spent on science activities in Canada in 1978. Government (federal and provincial combined) was the largest funder of science activities - about $2.1 billion. The university and industry sectors also funded a considerable amount of science activities.

Federal Science Expenditures by Application Areas

MOSST has classified all federal science expenditures into 30 "application" areas which are areas of national concern and/or cross the mandate of more than one federal department. The total expenditure in these 30 areas equals the $1.8 billion figure shown for the Federal Government sector in Table 1. Among the 30 are such areas as health, social development and welfare, transportation, communications, and culture and recreation.

While a break-out by application area provides a perspective on federal science expenditures, what we ideally would like to know is how much was spent in each relevant application area on scientific activities pertaining to: (a) The rehabilitation-integration of the disabled, and (b) the prevention of disability. Going beyond the federal sector we would want the same type of information on the other sectors as well. Unfortunately, there are no comprehensive and integrated statistics available but, hopefully, steps will be taken to remedy the situation.

Some Canadian Contributions to Rehabilitation Engineering

Starting in the early 1960s Canadian biomedical engineers and technicians demonstrated a remarkable inventiveness in the field of prosthetics/orthotics. This tradition has been continued and has expanded into the area of rehabilitation engineering.

Notable among the Canadian "firsts" were the Canadian Plastic Symes Prosthesis, which was the forerunner of the SACH foot developed in the United States, the Canadian Hip Disarticulation Prosthesis, a plastic laminate reinforcement of wooden prostheses, a cable recovery unit for use in high level arm prostheses, and an electrical alignment unit for aligning the foot of an artificial limb. In 1964-65, the first units of modular prostheses (lower extremity) developed at the Winnipeg Rehabilitation Hospital were successfully introduced into clinical use. Other designs that were adapted by these Canadian researchers for clinical use included the first leave-in alignment coupler unit for an artificial limb system and a knee unit which included the University of California, Pneumatic Swing Phase Control Method. The Rehabilitation Institute of Montréal, the Ontario Crippled Children's Centre in Toronto and the University of New Brunswick Bio-Engineering Institute worked on myo-electric controls for upper extremity prostheses.

A. *National Research Council*

Target: This is a mouth-operated electronic typing aid which permits a quadraplegic to operate an electric typewriter. The heart of this device is a matrix board with the complete keyboard displayed on a 12.7 cm concave round disc. To operate Target, the person first locates a key, and then with his mouth positions a balanced pivoted electro-mechanical pointer in line with the key and puffs lightly. This activates the typewriter. Head movement of only 22 mm in all directions away from the centre resting position is all that is required to cover the entire matrix board. With some practice, a quadraplegic can easily type at a speed of one character per second. A second version of the Target is in progress which will enable the quadraplegic to have access to a computer or printer.

Caster Cart: This is a miniature wheelchair designed to provide early mobility for young children with spina bifida and other forms of lower limb disability. Children can either propel themselves with hands on the wheels or parents can push the cart like a stroller.

Telco: This is a hand-free telephone receiver and dialer designed for the severely handicapped.

Any one of a variety of special input switches can be used to operate the Telco. A single pulse with the input switch will receive an incoming call or it will automatically dial out a preset telephone number. This emergency number can easily be preset with the thumb wheel switches on the front panel by an attendant. Any other number can be dialed with the single input switch by first programming the number into Telco's memory and then dialing it out. The Telco can be installed as an extension telephone. Incoming calls are detected and announced by a beeping signal over the speaker. Conversation is over a built-in speaker and a plugged-in microphone.

Computer terminal with synthetic speech output: A synthetic speech output system has been developed for use by blind computer terminal operators. The unit is designed to generate all alpha-numeric characters as well as punctuation and special computer symbols. Since listening to the information being spelled out is somewhat slower than visual reading, an 8000 character memory has been provided in the equipment to store data until the operator can read it.

The equipment has been designed for use anywhere that a blind operator requires information from a computer terminal. Besides programmers the equipment may be used by those involved with word processing equipment.

Vibration damping as an aid in cerebral palsy: Cerebral palsy is often accompanied by spastic movements of the arms, which are characterized by rapid, high amplitude motions. There is some evidence that controlled damping is of benefit in such cases. By "controlled damping" is meant the application of large restraining forces to the arm and hand when an abrupt movement tends to occur, but using little or no restraint against slow motion. These forces may be applied via a hinged arm rest which supports the arm while allowing movement.

Two damping systems are under development as aids in spasticity. In one, the forces are applied by electric motors acting in opposition to the patient's muscular forces. The other technique uses viscous damping, wherein the control results from the movement of a fluid through a small orifice.

B. *Interdepartmental*

Visual Ear: This instrument enables persons with severe hearing impairments to communicate, via the printed word, over the telephone system. To initiate communication the individual locks the handset from a regular telephone into the acoustic coupler of the Visual Ear and dials the number. The caller then types the message on the keyboard of the Visual Ear. The message is displayed on the visual display unit of both the transmitting and receiving units. The Visual Ear is compatible with the TTY (teletypewriter) network used by the deaf. It is portable and can be set up anywhere where there is a phone.

The development of the Visual Ear involved three federal departments - Communications, Supply and Services, and Health and Welfare - working closely with Bell-Northern Research and the Ontario Mission for the Deaf, which developed the concept and initial model of the device.

C. *Transport Canada*

The Transport Canada Research and Development Centre (TDC) was created as a focal point in Canada for the application of science and technology to transportation.

Wheelchairs: TDC has sponsored two innovative wheelchair designs:

- A curb-climbing electric wheelchair was developed to provide mobility to those unable to operate a conventional wheelchair.

- A gear-drive mechanism is being developed as an add-on device for a conventional wheelchair. This permits operation by persons having limited use of their arms and also facilitates climbing slopes.

Lift Systems:

- Testing and in-service evaluation of a prototype van wheelchair lift.

- Concept definition and prototype design of an on-board, overhead train access lift system for wheelchair passengers.

- Concept definition and prototype design of a coach-mounted, platform lift system for the mobility handicapped.

Wheelchair Restraints:

- The concept definition, design and fabrication of two prototypes of a special wheelchair restraint system for use in rail coaches.

- A restraint system for multi-modal applications has been developed and is currently in the prototype construction stage. The modular concept consists of a restraint arm, main body, backrest/headrest and seat.

Vehicles:

- A TDC-sponsored project in which a Datsun station wagon was modified and operated in a high mileage 18-month test. Results clearly indicate that such a vehicle can provide a feasible and useful transportation service for the mobility handicapped.

- TDC is currently involved in an innovative taxi development project for urban and rural paratransit use. Its unique design makes this taxi more accessible to the handicapped.

D. *National Health Research and Development Program*

A Polycentric Prosthetic Knee Unit with Fixed Cylinder Pneumatic Swing Phase Control: In fitting an above-knee amputee with a prosthesis, soft foam cosmetic covers are superior to conventional limb finishing. Unfortunately the use of this improved cosmesis requires the amputee to sacrifice knee function. To overcome this problem a compact knee unit is being developed which incorporates the innovative design feature of a pneumatic swing phase control as a structural component in the pylon system. A polycentric linkage system is

then used to achieve the necessary knee action. Thus, this knee unit is sufficiently small to fit within the cosmetic foam cover, yet by virtue of its pneumatic swing phase control can offer the amputee improved function over currently available knee units.

Myoelectric Controls for Artificial Limbs: The purpose of this Project is to develop improved myoelectric control systems. The work is directed primarily toward systems in which a single muscle remnant (control site) is used to control several functions - a technique especially applicable in very short below-elbow amputations and in fore-quarter amputations, where commercially available systems are inadequate.

Specific objectives are improvements in the processing of the myoelectric signal to permit easier control and provision of sensory feedback so that the amputee can sense what his artificial arm is doing. Necessarily this is an iterative process, involving the full range of activities from fundamental research through laboratory testing of proposed control systems to clinical evaluation by small numbers of amputees.

TASH

Although many special devices and technical aids have been developed in laboratories of various institutions across Canada, their widespread use by the disabled community has been limited because of the lack of commercial involvement. For this reason, the Canadian Rehabilitation Council for the Disabled (CRCD), with the financial support of the National Research Council, established a non-profit organization entitled TASH (Technical Aids and Systems for the Handicapped). TASH's effort is coordinated with that of the Rehabilitation Technology Unit of the National Research Council.

TASH will, among other things:

a) organize a central warehouse for the stocking of aids procured from the manufacturer;

b) negotiate the appropriate warranties and service contracts with the manufacturer;

c) encourage and coordinate the establishment of community or provincial delivery systems.

State of Technology in Canada

The Canadian achievements in rehabilitation engineering must not obscure the serious problems Canada faces in industrial technology. Both the Ministry of State for Science and Technology and the Science Council of Canada point out that the Canadian manufacturing industry is technologically underdeveloped and, as a consequence, has difficulty competing effectively, either in domestic or in world markets.

The major reason put forth to account for this technological underdevelopment is the high degree of foreign ownership of industry in Canada. This gives rise to "truncation" which occurs when a subsidiary does not carry out all the functions - from original research to marketing - necessary for developing, producing and selling its goods. One or more of these functions is usually carried out by the foreign parent firm. The term also describes a more general tendency in the business behaviour of foreign firms to allocate roles to their subsidiaries in light of the worldwide strategic interests of the parent.

In assessing the impact of foreign companies on Canadian industrial R&D it must be acknowledged that Canada has benefitted from the substantial inflows of both funds and technology and that this continues to be the case. As it is neither efficient nor economically possible for Canada to be completely self-sufficient on the basis of indigenous R&D, the easy access to foreign funds and technology has had important positive aspects. According to both MOSST and the Science Council, however, foreign ownership has, on balance, hindered Canadian industrial development.

There are, of course, other reasons which account for Canada's alleged technological underdevelopment. Canada confronts institutional and political problems resulting from a highly complex federal system of government with strong regional and provincial interests making it difficult to agree upon R&D priorities and policies and mechanisms of coordination.

Are the Disabled Benefitting from R&D to the Extent That They Could?

Without having any hard data to answer this question it is nevertheless obvious that, of the almost $4 billion spent on science activities in 1978, the amount going towards the rehabilitation-integration of disabled persons and the prevention of disability would be a very small proportion of that total. In view of the fact that an estimated nine per cent of the Canadian population is disabled, it would be reasonable to conclude that the disabled are not benefitting from R&D to the extent that they could.

Admittedly, R&D is mainly concerned with improving existing technology and solving specific technical problems. Therefore, if R&D accomplishes its objectives, it benefits the population as a whole. Obviously, R&D which leads to better communication, transportation, or housing, benefits everyone, albeit some more than others. Clear-cut examples of benefits to the population are R&D expenditures which ensure that our water is safe to drink and our air fit to breathe. This would seem to undermine our previous conclusion but it must also be recognized that a good deal of R&D is for very specific and highly specialized problems which will primarily benefit particular groups in the population.

It would not seem to offend any "principles" of R&D funding if R&D funds were directed to projects in the area of disability. Having said this we are not advocating that a certain percentage of a department's budget be set aside for R&D activities in the disability area. Rather what appears to be urgently required is a long-range plan to help guide future R&D initiatives.

FEDERAL LEGISLATION IN CANADA RELATING TO THE DISABLED AND THE PREVENTION OF DISABILITY

Federal legislation reflects the Canadian Constitution and the processes whereby it has evolved. For rehabilitation and integration and income maintenance this Chapter examines federal legislation in respect of three aspects: Federal legislation which authorizes federal-provincial programs, legislation which is exclusively federal, and federal legislation which complements legislation at the provincial level. Insofar as prevention and protection are concerned, the legislation complements provincial legislation.

Federal legislation in Canada may be quite simple, resulting in a single program administered by one agency, or it may be multifaceted covering a number of programs, or quite comprehensive in the sense of being both multifaceted and also covering a number of other pieces of legislation. An example of single program legislation is the *War Veterans Allowance Act, 1930*, administered by the War Veterans Allowance Board. An example of multi-faceted legislation is the *Canada Labour Code, 1966*, the responsibility of the Minister of Labour, which provides for such programs as industrial relations, fair employment practices, minimum wages, equality between men and women in employment, and occupational health and safety. An example of comprehensive legislation is the *Department of National Health and Welfare Act, 1944*, the responsibility of the Minister of National Health and Welfare. Under this Act the Minister is concerned with some 20 other pieces of legislation, including the *Hospital Insurance and Diagnostic Services Act, 1957*, the *Medical Care Act, 1966*, the *Canada Pension Plan, 1965*, the *Canada Assistance Plan, 1966*, and the *Family Allowances Act, 1973*.

There have been certain legislative trends and developments in the past five years which can be highlighted. One significant development has been the enactment of the *Canadian Human Rights Act* which prohibits discrimination and protects privacy in matters under the jurisdiction of the Parliament of Canada. Another recent legislative development has been the *Federal-Provincial Fiscal Arrangements and Established Programs Financing Act, 1977*, which

sets out a new method of federal cost-sharing for provincial programs of hospital care and diagnostic services, medical care benefits, and extended health care services. Yet another legislative development has been the *Employment and Immigration Reorganization Act, 1976*, which provided authority to integrate the Department of Manpower and Immigration and the Unemployment Insurance Commission, creating the Canada Employment and Immigration Commission and Department. This integration is directed towards achieving the Employment and Insurance and Immigration objectives established by the Commission.

Another development has occurred in the income maintenance field where under the *Income Tax Act, 1948*, authority was provided for the payment of an annual child tax credit in respect of children resident in Canada under the age of 18. The implementation of the child tax credit and the downward adjustment in the amount of the family allowances worked a further development in the trend for achieving a closer integration between benefits provided under the *Family Allowances Act, 1973*, and those provided under the *Income Tax Act, 1948*. Three federal acts are being phased out. These are the *Health Resources Fund Act, 1966*, being phased out in 1980, which provided funding for health training and research facilities, and the *Blind Persons Act, 1951*, and *Disabled Persons Act, 1954*, which will terminate February 1, 1981, having effectively been replaced by dealing with blind persons and otherwise disabled persons under provincial programs federally cost-shared under the *Canada Assistance Plan*. A new Act, the *Compensation for Former Prisoners of War Act, 1976*, provides compensation to former prisoners of war and their dependants.

I. REHABILITATION/INTEGRATION LEGISLATION

Legislation Establishing Federal-Provincial Programs

A. *Vocational Rehabilitation of Disabled Persons Services*

The *Vocational Rehabilitation of Disabled Persons Act, 1961*, administered by the Department of National Health and Welfare provides for agreements between the federal and provincial governments under which the Federal Government contributes 50 per cent of the costs incurred by a province in providing a comprehensive program of services for the vocational rehabilitation of disabled persons. All provinces except Québec have signed agreements under this legislation and operate programs. Québec recently passed legislation which allows for the development and implementation of rehabilitation programs.

B. *Welfare Services*

The *Canada Assistance Plan, 1966*, encourages the improvement of provincial and municipal social assistance payments and aims at encouraging the extension and development of welfare services by the provinces. The federal legislation provides for agreements with the provinces and territories under which the Federal Government contributes 50 per cent of the shareable costs of provincial and municipal expenditures for social assistance and welfare services.

C. *Hospital and Medical Care Services*

Federal legislation for hospital and medical care is the *Hospital Insurance and Diagnostic Services Act, 1957*, the *Medical Care Act, 1966*, and the *Federal-Provincial Fiscal Arrangements and Established Programs Financing Act, 1977*. This legislation sets out

conditions and criteria for federal cost-sharing of provincial programs of hospital care and diagnostic services and medical care services rendered by a physician or surgeon which are universally available to all residents of Canada. All provinces and territories have passed legislation setting up health insurance programs providing for hospital and diagnostic and medical care services.

D. Extended Health Care Services

The *Federal-Provincial Fiscal Arrangements and Established Programs Financing Act, 1977* authorizes payments to a province for extended health care services provided under provincial legislation. These services include nursing home intermediate care, adult residential care, ambulatory health care, home care, and converted mental hospitals.

Legislation Establishing Exclusively Federal Programs

A. Manpower Training and Mobility

Under the *Employment and Immigration Department and Commission Act, Part 1, 1977*, and the *Adult Occupational Training Act, 1967*, the Canada Employment and Immigration Commission administers a manpower training program to help underemployed, unemployed, and disadvantaged workers to improve their labour market qualifications. Under the first-named Act the Commission operates a manpower mobility program to help such workers move to an area where employment is available.

B. Services for Veterans

The *Department of Veterans Affairs Act, 1944*, and other veterans' legislation, the responsibility of the Minister of Veterans Affairs, provide rehabilitation, treatment, hospital and medical care and other services to disabled war veterans.

C. National Welfare Grants

Under the *Department of National Health and Welfare Act, 1944*, and the National Health Grant Rules of 1971, grants are provided by the Department of National Health and Welfare to develop and strengthen welfare services in Canada.

D. Health Resources Fund

Under the *Health Resources Fund Act, 1966*, the Department of National Health and Welfare contributes toward the cost of designing and constructing health training and research facilities in the provinces. The Fund is to be phased out at the end of 1980, but payments will continue into 1982.

Federal Legislation with Complementary Provincial Legislation

A. Other Rehabilitation Services

The Department of National Health and Welfare under the *Department of National Health and Welfare Act, 1944*, provides an information service on rehabilitation of physically, mentally or socially handicapped persons and has set up a Bureau of Rehabilitation to coordinate departmental initiatives on the prevention of disability and relating to the disabled. Provinces have legislation covering rehabilitation services.

B. Medical Rehabilitation

The Department of National Health and Welfare, under the *Department of National Health and Welfare Act, 1944*, provides prosthetic and orthotic services. These services are available to all physically-disabled Canadians. Provinces have legislation covering medical rehabilitation.

C. Workers' Compensation - Services

The *Government Employees Compensation Act, 1918*, and the *Merchant Seaman Compensation Act, 1946*, provide for the payment of compensation, medical aid, vocational guidance, counselling and other services for work injury and industrial diseases. One of the prime concerns of this legislation is the rehabilitation of injured workers. All provinces have Workers' Compensation legislation.

D. Human Rights

The federal *Canadian Human Rights Act, 1960*, prohibits discrimination and protects privacy in matters under the jurisdiction of the Parliament of Canada. One important provision of the legislation prohibits discrimination in employment because of a physical handicap. The Act also encourages the development of measures to protect a handicapped person from discrimination in the provision of goods, services, facilities and accommodation. All provinces have enacted human rights codes and other legislation dealing with human rights.

II. INCOME MAINTENANCE LEGISLATION

Legislation Establishing Federal-Provincial Programs

A. Vocational Rehabilitation of Disabled Persons - Allowances

Federal legislation (as described above in I.A. (1) VRDP - Services) provides federal cost sharing for the payment of maintenance allowances to disabled persons receiving vocational rehabilitation services under provincial programs of vocational rehabilitation.

B. Social Assistance Payments

The *Canada Assistance Plan, 1966*, (as described above under I.A. (2) - Welfare Services) provides federal cost-sharing for the payment of social assistance to persons in need under provincial and municipal programs.

C. Blind and Disabled Persons Allowances

The *Blind Persons Act, 1951*, and *Disabled Persons Act, 1954*, provide reimbursement to the provinces for allowances paid to blind and/or permanently disabled persons. The programs have become residual because provinces are now assisting such persons under the *Canada Assistance Plan, 1966*. The Blind and Disabled Persons Acts will terminate on February 1, 1981.

Legislation Establishing Exclusively Federal Programs

A. Unemployment Insurance

Under the *Unemployment Insurance Act, 1971* benefits are provided to insured claimants for regular unemployment, sickness, maternity and retirement.

B. Veterans' and Armed Forces Disability Pensions

Disability pensions and benefits payable under the *Pension Act* are similar to compensation paid under Workers' Compensation legislation. These benefits are paid to war veterans and members of the Armed Forces and their dependants for disability or death resulting from war service or peacetime service in the Armed Forces. The *Compensation for Former Prisoners of War Act, 1976*, provides for compensation to former prisoners of war and their dependants.

C. War Veterans Allowances and Civilian War Pensions and Allowances

Under the *War Veterans Allowance Act, 1930*, and the *Civilian War Pensions and Allowances Act, 1946*, allowances are paid to needy war veterans and to specified civilians having had war service.

D. Manpower Training Allowances

Under legislation (as described above under I.B. (1) - Manpower Training and Mobility) a person training under a Canada Manpower Training Program may be paid either unemployment insurance benefits if he qualifies, or, if not, a special training allowance.

E. Federal Annuity and Savings Legislation

Under the *Government Annuities Act, 1908*, and the *Government Annuities Improvement Act, 1975*, the Federal Government operates a residual program of government annuities. Under the *Income Tax Act, 1948*, tax incentives are provided to encourage Canadians to save for retirement using Registered Retirement Savings Plans.

Federal Legislation with Complementary Provincial Legislation

A. Canada Pension Plan

The *Canada Pension Plan, 1965*, established a compulsory, contributory, earnings-related pension plan covering most of the employed members in the labour force from age 18 to age 70. The Canada Pension Plan provides for the payment of retirement, disability, survivors and death benefits. The Plan covers all provinces except Québec, where a comparable pension plan has been enacted.

B. Old Age Security Benefits

Under the *Old Age Security Act, 1951*, monthly benefits are provided to elderly persons meeting the residence requirements. The benefits provided are a flat-rate old age security pension, and an income-tested Guaranteed Income Supplement for persons age 65 and over, and an income-tested Spouse's Allowance for pensioners' spouses in the age group 60-64 inclusive. Six provinces and the Northwest Territories have legislation providing for supplements to Old Age Security benefits.

C. *Family Allowances*

Under the *Family Allowances Act, 1973* and the *Income Tax Act, 1948*, a monthly flat-rate allowance and an annual child tax credit respectively are provided for children resident in Canada who are under the age of 18. Québec and Prince Edward Island have legislation providing for the payment of family allowances in addition to the federal family allowances.

D. *Workers' Compensation Payments*

Under the federal Workers' Compensation Legislation (described above in I.C. (3) - Workers' Compensation - Services) compensation is paid to disabled workers, to survivors and dependants of survivors and to orphans. All provinces have Workers' Compensation legislation.

E. *Income Tax Credits*

Under the *Income Tax Act, 1948*, the Federal Government provides for the payment of an annual child tax credit for children under the age of 18. Alberta, British Columbia, Manitoba and Ontario under their income tax acts have set up tax credits covering such matters as assistance for payment of accommodation, sales taxes, cost-of-living increases, and assistance for elderly persons. Three of the provinces cover one or other of these areas, while Ontario covers three.

F. *Minimum Wages*

The Federal Government under the *Canada Labour Code, 1966*, establishes minimum wages from time to time. The legislation makes provision for the payment of wages at less than the minimum wage for handicapped workers. Similar legislation exists in the provinces.

G. *Private Pension Legislation*

The Federal Government has legislation regulating private pension plans dealing with matters such as vesting, portability, investment of pension funds, distribution of assets or termination of plans and provision of information respecting plans. Comparable legislation is in effect in six provinces.

III. PREVENTION/PROTECTION LEGISLATION

The federal and provincial legislation relating to the prevention of disability and the protection of the disabled is complementary because both the federal and provincial governments have responsibilities in the areas being examined here. In some cases, it is a division of responsibility for separate areas of the field as for transportation, or one area is under federal and another area under provincial jurisdiction as for labour legislation, or both governments cooperate to cover the field as for housing or protection of the environment or health protection.

Health Protection

Federal legislation pertaining to the protection of the health of Canadians is the *Atomic Energy Control Act, 1946, Canada Agricultural Products Standards Act, 1955*, the *Department of National Health and Welfare Act, 1944, Explosives Act, 1946, Fish Inspection*

Act, 1949, Food and Drugs Act, 1920, Hazardous Products Act, 1969, Meat and Canned Foods Act, 1907, Narcotic Control Act, 1961, Radiation Emitting Devices Act, 1970. Under these Acts health is protected in the important areas of food consumption, drug use, use of hazardous materials and the control of diseases. The public health legislation and other health legislation of the provinces provide authority for health protection in the provinces.

Preventive Health Services

Federal legislation dealing with prevention in the health field is the *Quarantine Act, 1970*, the *Immigration Act, 1910*, and the *Aeronautics Act, 1927*. These deal respectively with control of infectious and communicable diseases in persons and conveyances arriving at or departing from Canada; the health of immigrants; and the medical aspects of civil aviation. All provinces have legislation for the maintenance of community health and the prevention of large scale health problems.

Fitness and Amateur Sport

The main thrust in this area is the *Fitness and Amateur Sport Act, 1961,* which sets out a comprehensive federal program of fitness and amateur sport. One aspect of the program is the measures concerned with the fitness levels of physically and mentally handicapped persons. One province, Manitoba, has fitness and amateur sport legislation.

Health Promotion and Lifestyles

Under the *Department of National Health and Welfare Act, 1944,* programs have been established for the promotion of health, including programs dealing with the misuse of alcohol, tobacco and drugs. Provincial legislation provides for similar health promotion programs at the provincial level.

Occupational Health and Safety

The *Canada Labour Code - Part IV, 1966,* (Safety of Employees) applies to employees in activities under federal jurisdiction. Other federal legislation related to specific aspects of occupational health and safety is the *Atomic Energy Control Act, 1966, Explosives Act, 1946, Hazardous Products Act, 1966,* and *Radiation Emitting Devices Act, 1970.* Legislation is in force in all provinces to ensure the health and safety of persons employed in industrial and commercial establishments, in mines and quarries and in other places of work.

Safety in Transportation

The Federal Government has jurisdiction over railways, shipping and civil aviation and shares jurisdiction with the provinces for motor vehicle and pipeline safety. The federal legislation is the *Motor Vehicle Safety Act, 1970,* and *Motor Vehicle Tire Safety Act, 1976,* the *National Transportation Act, 1967, Transport Act, 1938, Railway Act, 1919,* and *Aeronautics Act, 1927,* the *Canada Shipping Act, 1934, Arctic Waters Pollution Prevention Act, 1970, Navigable Waters Protection Act, 1886,* and *Pilotage Act, 1971.* All provinces have legislation on traffic, licensing of drivers, motor vehicle insurance and speed limits, and the operation of motor vehicles.

Protection of the Environment

The Department of the Environment has the principal responsibility for legislation dealing with control of pollution in the environment, but other federal departments such as the

Atomic Energy Control Board and the Department of National Health and Welfare also have responsibilities under federal legislation. Legislation includes the *Atomic Energy Control Act, 1946, Canada Waters Act, 1970, Clean Air Act, 1971, Environmental Contaminants Act, 1975, Fisheries Act, 1868, Food and Drugs Act, 1920, Hazardous Products Act, 1969, Ocean Dumping Control Act, 1975* and *Radiation Emitting Devices, 1970.* Jurisdiction over environmental matters is shared by the federal and provincial governments. Almost all provinces have enacted environmental quality acts, or clean air and clean water acts.

Housing

The Federal Government under the *National Housing Act, 1944,* provides financial assistance towards the construction of housing accommodation for low-income families, elderly persons, and physically or mentally handicapped persons. Provinces under provincial housing legislation also encourage the construction of housing for low-income families with rentals based on income.

Labour Legislation

The *Canada Labour Code, 1966,* applies to employment under federal jurisdiction. The legislation regulates such matters as fair employment practices, labour standards, including the setting of minimum wages, safety of employees and industrial relations. All provinces have similar labour legislation covering employment under provincial jurisdiction.

Health Research and Development

Federal legislation on health research is: The *Department of National Health and Welfare Act, 1944,* covering research and development and collection of statistical data on health matters; the *Health Resources Fund Act, 1966,* assisting in the construction of health teaching and research facilities; the *Medical Research Council Act, 1969,* supporting research and development in health services; the National Health Grants Rules under the *Department of National Health and Welfare Act, 1944,* which set up the National Health Research and Development Program to support research on the promotion, protection, maintenance and restoration of the health of the residents of Canada; and the *Statistics Act, 1971,* under which data are collected on vital statistics, special diseases, health manpower, hospital and institutional care. Under provincial legislation provinces conduct health research and development projects and programs.

PROVINCIAL LEGISLATION IN CANADA RELATING TO THE DISABLED AND THE PREVENTION OF DISABILITY

All Canadian provinces have enacted their own legislation relating to disabled persons. The provincial legislation may pertain to areas under exclusive provincial jurisdiction, or it may complement the federal legislation. Some provincial disability-oriented legislation is designed for the rehabilitation and care of the disabled, and their integration into society, and this is discussed in Part II under the heading Rehabilitation/Integration Legislation. Other provincial legislation, discussed in Part III, Income Maintenance Legislation, provides for income maintenance for the disabled which is additional to that provided by the Federal Government. No attempt has been made to analyse specific pieces of provincial legislation, but rather a broad overview of the provincial legislative situation is presented.

Current trends in provincial legislation for the disabled emphasize human rights and income supplementation, and an expansion of existing legislation is facilitating the integration of the disabled into the community. Provincial Human Rights codes prevent discrimination against disabled persons, while other such legislation includes White Cane Acts, access for blind persons' guide dogs, the appointment of ombudsmen and the setting up of legal aid programs. The disabled benefit from provincial legislation provides income supplementation for the elderly on low incomes, and for those who are working but at relatively low earnings. There is also an increasing emphasis on services to enable disabled persons to live at home rather than in institutions. Similarly, an increasing provincial concern is the integration of physically handicapped children into the regular public school system.

Disabled persons also derive benefits from provincial legislation designed for all the residents of a province or for specific groups which, by definition, include disabled persons. Time and space constraints prevent a full consideration of this broad category of legislation here, but briefly it includes further income maintenance legislation and legislation designed for the prevention of disability and the protection of all residents.

Provincial income maintenance legislation for groups which include disabled persons range from income supplementation for the elderly, family allowances, work income supplementation, income tax credits, minimum wages to private pensions legislation. Six provinces and the Northwest Territories have legislation providing income supplements for elderly persons who are receiving the needs-tested federal income supplement under the federal *Old Age Security Act*. Québec provides family allowances in addition to the federal family allowances. Ontario, Québec and Saskatchewan have enacted legislation providing income supplementation for persons who are working, but at relatively low earnings. Four provinces provide their own income tax credits. All provincial jurisdictions have enacted minimum wage legislation, and six provinces have legislation regulating private pension plans.

Provincial prevention/protection legislation for all the residents of a province includes health protection, housing, occupational health and safety, safety in transportation, environmental protection, health research and development, and labour legislation. Health protection legislation in all provinces regulates public health, environmental sanitation and vital statistics. Provincial housing legislation complements the federal *National Housing Act* to encourage the building of rental housing for those on low incomes, and subsidizes home-ownership. Occupational health and safety laws protect workers against industrial accidents and diseases, and provincial legislation regulates road safety. Jurisdiction over environmental matters is shared by the federal and provincial governments, and provinces have enacted legislation controlling environmental quality and dangerous substances such as radiation devices, X-rays, pesticides and agricultural chemicals. Provincial legislation encourages research and development in the field of physical and mental well-being of the residents of a province. And provincial labour legislation regulates such recognized basic standards as annual vacations with pay, statutory holidays, hours of work, overtime pay rates and minimum wages, human rights, safety laws and industrial standards.

I. REHABILITATION/INTEGRATION LEGISLATION

Vocational Rehabilitation of Disabled Persons - Services

Vocational Rehabilitation programs in all the provinces except Québec are carried out under the terms of the federal *Vocational Rehabilitation of Disabled Persons (VRDP) Act*. The Act, originally passed in 1961, permits agreements between the federal and provincial governments under which the Federal Government contributes 50 per cent of the cost incurred by a province in providing a "comprehensive program for the vocational rehabilitation of disabled persons". Such a comprehensive program includes, but is not limited to, assessment and counselling, services and processes of restoration, training and employment placement, maintenance allowances, use of the services of voluntary organizations in the field of vocational rehabilitation, training of counsellors and administrators, and the coordination of all activities in the province related to the vocational rehabilitation of disabled persons.

In order to be considered disabled a person must have a physical or mental impairment, and the impairment must result in that person being incapable of pursuing regularly any substantially gainful occupation. Physically impaired persons include paraplegics, quadraplegics and persons with cerebral palsy, amputees, the blind and the deaf, and those with multiple sclerosis. Mentally impaired persons include mentally ill (psychiatric and ex-psychiatric patients and those with severe mental disorders), mentally retarded, drug addicts, and alcoholics. Many persons can be affected by more than one of these disabling conditions. The objective of vocational rehabilitation is to enable such a person to become capable of pursuing

regularly a substantially gainful occupation, which may be employment in the competitive labour market, self-employment, homemaking, farm work, sheltered employment, or other work of a remunerative nature.

Flexibility contained in the agreement between the federal and the provincial governments leads to differences among the provinces in interpretation of the eligibility and needs-test criteria, and in the use of a means test.

Each province establishes an organization to administer and coordinate all activities relating to the vocational rehabilitation of disabled persons under the direction of a provincial coordinator or director of rehabilitation.

All the provinces except Québec and both Territories operate under agreements signed with the Federal Government to implement the provisions of the VRDP Act. Newfoundland, Prince Edward Island, Ontario, Saskatchewan, Alberta and both Territories have enacted specific legislation or ordinances which are complementary to the federal VRDP Act.

Other Rehabilitation Legislation

Québec has recently passed Bill 9, which allows the province to develop and implement individual rehabilitation programs. Ontario, Saskatchewan and Québec have enacted specific legislation on alcoholism; in some cases, drug abuse is included. Other provinces have organized such programs under authority of a quasi-public, but privately incorporated, society or foundation, such as The Alcoholism Foundation of British Columbia.

As was the case with the federal legislation, other pieces of provincial legislation incorporate broad rehabilitation objectives. These include general assistance acts and human rights codes. The Newfoundland *Health and Public Welfare Act* contains sections dealing with the needs of crippled children and the deaf and blind. In Saskatchewan, the *Public Health Act* makes reference to the provision of care and treatment to the disabled. In Manitoba, the *Social Allowances Act* specifies rehabilitation services.

Some pieces of provincial legislation concerned with specific diseases and disabilities indicate measures for the care and treatment of persons with these disabling conditions. The *Tuberculosis Control Act* of Manitoba, for instance, provides for the vocational training, employment and rehabilitation of patients.

Workers' Compensation - Services

Workers' Compensation laws are within the competence of the provincial legislatures and are applicable to the majority of employers in each province. One of the primary objectives of the compensation process is the rehabilitation of the injured worker. Provincial Workers' Compensation boards may adopt any means considered expedient to aid in getting workers back to work and in lessening any handicap.

The Workers' Compensation system is based on the two main principles of collective liability on the part of the employers and compulsory insurance in an exclusive provincial fund known as the accident fund. In each province coverage is compulsory for all employment within the scope of the Act. Some gaps in coverage exist, particularly with regard to domestic servants, farm workers (except in Ontario), workers employed by financial, insurance and professional undertakings, and by non-profit organizations, and workers in certain service industries.

The Workers' Compensation Legislation found in all provinces gives the Boards very wide powers in the field of rehabilitation. Generally speaking, in this context, rehabilitation consists of medical aid, vocational guidance, testing, counselling and assistance. Alberta, British Columbia, New Brunswick, Ontario and Quebec operate rehabilitation centres to provide these services. Other provinces generally make use of local hospitals and clinics. Under the legislation these services are provided free of charge to persons who have a permanent or temporary disability caused by an industrial accident or disease. The financial burden is carried entirely by employers' contributions, based on the accident experience in their class of industry.

Education of Handicapped Children

Most provinces have mandatory or enabling legislation for the education of all mentally or physically handicapped children. Those provinces that do not (New Brunswick and Prince Edward Island) have provincially-supported educational programs for all categories of handicapped children. An increasing provincial concern is the integration of physically handicapped children into the regular public school system instead of segregating them in special classes or building. Special schools or classes for various groups of handicapped children are usually operated by school boards. Severely multi-handicapped children may not be able to be integrated into the public school system. Most of the schools for the deaf and for the blind are residential schools operated by provincial governments, or administered through inter-provincial agreements.

Welfare Services

Welfare services, which include counselling and assessment, casework rehabilitation services, community development and daycare, homemaker and adoption services, are provided to persons in need and to persons who are likely to become in need if they do not receive these services. The Federal Government shares the costs of welfare services and their administration under the terms of the *Canada Assistance Plan*.

All provinces and territories have legislation governing basic child welfare services which include the protection and care of children, adoption services to unmarried parents and, in most provinces, services designed to prevent child neglect or need for protection.

In all provinces homes for the aged and infirm are provided under provincial, municipal or voluntary auspices. Those who suffer from long-term illnesses may be cared for in chronic or convalescent hospitals, private or public nursing homes and some homes for the aged. Or are paid through the provincial hospital plans, or through other funding arrangements with Health or Social Departments.

All provinces pay all or part of the cost of additional medical services required by residents in financial need. Benefits vary from province to province, but may include optical care services and eyeglasses, prosthetic appliances, dental services, prescribed drugs, home care services and nursing home care.

Hospital and Medical Care

A. Hospital Care Insurance Plans

Provincial hospital insurance programs set up by provincial legislation, operating in all provinces and territories since 1961, cover 99 per cent of the population of Canada. Under the federal *Hospital Insurance and Diagnostic Services Act* of 1957 the Federal Government shares with the provinces the cost of providing specified hospital services to patients insured by these

programs. Provincial programs must meet conditions specified in the federal *Hospital Insurance and Diagnostic Services Act*. Since April 1, 1977, contributions under this Act have been calculated in accordance with the *Federal-Provincial Fiscal Arrangements and Established Programs Financing Act*, 1977. Insured in-patient services must include accommodation, meals, necessary nursing services, use of operating rooms, case rooms, anasthesia facilities, and radiotherapy and physiotherapy if available. Similar out-patient services may be included in provincial plans and authorized for federal contributions. All provinces include a fairly comprehensive range of out-patient services.

Specifically excluded from provincial hospital insurance programs are tuberculosis hospitals and sanatoria, hospitals or institutions for the mentally ill, and institutions providing custodial care. In Saskatchewan, nursing home subsidy costs, where applicable, are paid through Social Services and not through the hospital plan.

Every provincial hospital care insurance program covers welfare recipients without their payment of premiums or authorized charges.

B. *Medical Insurance Plans*

The federal *Medical Care Act* of 1966 authorizes the payment by Canada of contributions toward the cost of insured medical services incurred by the provinces under provincial medical care insurance plans. Since April 1, 1977, federal contributions to the provinces for medical care costs have been calculated according to the terms of the *Federal-Provincial Fiscal Arrangements and Established Programs Financing Act, 1977*. To be eligible for federal contributions, provincial plans set up under provincial legislation must meet the criteria of comprehensiveness of insured services, universality, accessibility, portability, and public administration. These criteria leave substantial flexibility with each province to determine its own administrative arrangements and to choose whether its share of medical care insurance costs will be financed through premiums, sales tax, other provincial revenues, or by a combination of methods.

The provincial medical care insurance plans cover provincial welfare recipients, without premiums in provinces levying premiums. Extra billing by physicians is usually waived.

C. *Medical Rehabilitation*

Provincial programs for medical rehabilitation vary in forms of organization and in the scope of the services. In some provinces medical rehabilitation services and the provision of prostheses, orthotic appliances and other aids to living for the disabled are centralized in a special department or program; in others these are provided in an integrated framework of general health care. Services for children and adults may be organized in segregated facilities, or the different age groups may be combined. Physical medicine and rehabilitation services are based in several types of institution, including hospitals and separate in-patient and out-patient facilities.

The *Federal-Provincial Fiscal Arrangements and Established Programs Financing Act*, 1977, provides federal cost-sharing for certain medical rehabilitation services delivered at home, in ambulatory health care services, and in some residential facilities.

D. *Home Care*

Home care has developed in a variety of ways. Provincial home care programs may be oriented toward specific disease categories, some are attached to hospitals or community centres, while others are included as integral parts of comprehensive health care delivery

systems. Services delivered by home care programs vary from nursing services alone to a complete array of health and social services. Both short-term active treatment and chronic or convalescent treatment may be given. Specific objectives may be the reduction of institutional costs and length of stay, and continuity of care and the provision of coordinated health care services to patients for whom home care is the most appropriate care.

Specific Diseases and Disabilities

All provinces have legislation regulating the management of specific diseases, usually including cancer, tuberculosis and venereal disease.

Special provincial agencies for cancer control, usually in the health department or a separate cancer institute, carry out cancer detection and treatment, public education, professional training, and research in cooperation with local public health services, physicians and voluntary Canadian Cancer Society branches.

In each province both institutional and ambulatory care for tuberculosis is provided by an agency of the department responsible for health, with increasing attention directed at preventive services. Provincial health departments, assisted by voluntary agencies, conduct anti-tuberculosis case-finding programs through community tuberculin-testing and X-ray surveys, routine hospital admission X-rays, and follow-up of arrested cases. Practising physicians detect the greatest number of new cases. BCG vaccine is used in most provinces to protect high-risk groups. Hospital care, drugs and rehabilitation services are free in all provinces. Chemotherapy has shortened hospital stay and facilitated out-patient or domiciliary care.

Provincial health departments have expanded public venereal disease clinics, which provide free diagnostic and treatment services.

Many services for people with heart disease, arthritis, diabetes, visual and auditory impairments, and for paraplegics, have been initiated by voluntary agencies assisted by federal and provincial funds. Treatment for specific conditions is available at hospital out-patient clinics and in-patient or day centres, at separate clinics and rehabilitation centres, and under home care programs.

Mental Health

All provinces have enacted mental health legislation, and among provincially-operated health services mental health activities represent one of the largest administrative areas.

Specialized rehabilitation services assist former patients to function more adequately. These include sheltered workshops that provide work and provide training, and halfway houses in which patients can live and continue receiving treatment while becoming settled in a job.

Facilities for mentally retarded persons include day training schools or classes, summer camps and sheltered workshops as well as residential care in institutions. These facilities provide for social, academic and vocational training.

Manual skills are taught in the training school workshops and some people are placed in jobs in the community.

Emotionally disturbed children presenting personality or behaviour disorders are treated at hospital units, community clinics, child guidance clinics, and other out-patient facilities.

Human Rights

All provinces have enacted Human Rights Codes which usually cover general matters, employment and employment-related subjects, and occupancy and property matters. Some provinces have anti-discrimination legislation specifically covering physically handicapped persons.

Most provinces have *White Cane Acts* restricting the use of white canes to the blind. Provincial laws permitting blind persons' guide dogs to accompany them vary from province to province, some being contained in legislation concerning buses, trains, and planes.

Most provinces have enacted legislation to appoint ombudsmen to protect the interests of those who have been unjustly treated. All provincial governments have established publicly funded legal aid programs under which persons of limited means are able to obtain the services of a lawyer in a number of criminal and civil matters at no cost, or modest cost.

II. INCOME MAINTENANCE LEGISLATION

Provincial income maintenance legislation may either have specific benefits for disabled persons or provide benefits to larger population groups among which disabled persons are included. Legislation providing specific disability benefits includes compensation paid under Worker's Compensation legislation, disability benefits payable under the *Québec Pension Plan* and assistance payable under provincial assistance programs. Legislation providing benefits to general groups comprises family allowances and income supplementation to elderly persons and working persons; also discussed under this more general category is legislation that establishes minimum wages or regulates private pension plans.

Worker's Compensation Legislation - Compensation

All provinces have Worker's Compensation legislation under which compensation and other services are provided for injuries or industrial diseases occurring from or in the course of employment. Contingencies covered are temporary and permanent disability and death. Compensation is 75 per cent of the worker's earnings subject to earnings ceilings which vary by province. The amount of compensation also takes into account the degree of incapacity suffered from the accident or disease. Provision is made under the legislation for the payment of minimum pensions. Compensation is payable for permanent and temporary total and partial disability. Benefits to survivors include lump-sum payments and pensions which are not related to earnings. The lump-sum payments cover funeral and similar expenses; the pensions are payable to the surviving spouse and to dependent children or to orphans. Earnings ceilings and pensions in pay may be adjusted from time to time. Some provinces provide for automatic adjustment of the earnings ceiling, with formal or informal procedures for adjustment. British Columbia, Nova Scotia and Québec have automatic indexation for pensions in pay, and some provinces have formal procedures for assessing adjustments to pensions to reflect inflation.

Alberta, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward Island and British Columbia have special compensation legislation for the blind. In Québec, there are special provisions in the *Workmen's Compensation Act* dealing with compensation for blind workers. These laws were passed to increase the employment opportunities of blind workers who might otherwise be refused employment on the grounds that their accident rates would be too high. Provision is made in this legislation for payment out of public funds of all or the greater part of the costs of compensation for an accident occurring to a blind worker.

Vocational Rehabilitation of Disabled Persons - Allowances

Most provinces have legislation for the vocational rehabilitation of disabled persons. All provinces except Québec have signed agreements with the Federal Government under the federal *Vocational Rehabilitation of Disabled Persons Act* under which the Federal Government cost-shares provincial programs of rehabilitation for disabled persons. These provincial programs provide a wide range of services, including maintenance allowances payable to persons under provincial programs.

Québec Pension Plan

The *Québec Pension Plan* established in 1965 is comparable to the *Canada Pension Plan*. The *Québec Pension Plan*, like the *Canada Pension Plan*, provides retirement, disability, survivors' and death benefits. Disability pensions are paid on application to contributors who, having contributed for at least five of the previous ten years, have been determined to be suffering from a severe and prolonged mental or physical disability. The pension is a flat-rate monthly amount plus 75 per cent of the contributor's monthly retirement pension, calculated as if the contributor had reached the age of 65 when the disability commenced. The flat-rate component of the survivors' and disability benefits under the *Québec Pension Plan* is much higher than that under the *Canada Pension Plan*.

Children of disability pensioners receive a flat-rate benefit similar to that provided for orphans. Children must be under the age of 18 or under 25 if attending school or university full-time. The *Québec Pension Plan* orphans' benefits and those paid to the children of disabled pensioners are fixed in amount, while those payable under the *Canada Pension Plan* are increased annually in accordance with increases in the Consumer Price Index.

Also, disability is a condition for the payment of a survivors' pension under the age of 45. This pension may only be paid under that age without reduction if the survivor has dependent children or if the survivor is disabled.

Social Assistance

All provinces have legislation on social assistance. Three provinces, Manitoba, Nova Scotia and Ontario, also have programs of municipal assistance. In provinces having both provincial and municipal assistance, municipal assistance is provided for short-term needs and for the unemployed employables, while provincial legislation is generally provided for longer-term needs. Three provinces, Alberta, British Columbia and Ontario, have special legislation to provide benefits for disabled persons. Saskatchewan, Ontario and Québec have legislation for special income supplementation programs to encourage persons to continue working. Most programs are cost-shareable with the Federal Government under the terms of the *Canada Assistance Plan*. Certain elements of the programs that do not meet the test of need are not cost-shareable under the *Canada Assistance Plan*.

Social assistance programs provide income when all other resources are exhausted. Eligibility may require than an assessment be made of employability, disability, or whether an applicant is a single parent, as well as of income and resources. The actual payment is calculated according to a needs test. Need is determined by a test which takes into account an applicant's budgetary requirements and the income and resources available to meet these requirements. Previous residence in the province may not be required as a condition of eligibility. Provinces can establish maximum payments and minimum qualifying ages.

Provincial programs for blind and disabled persons shareable under the federal *Blind and Disabled Acts* have gradually been assimilated under provincial social assistance programs to become shareable under the *Canada Assistance Plan*. Programs remain in effect to cover a residual group which cannot be transferred to the provincial general programs.

Disabled persons in need are among those covered under provincial social assistance programs, and may receive assistance for an extended period of time.

Special Income Support Legislation for the Disabled

Three provinces have established legislation setting up programs for disabled persons. These are British Columbia, Alberta, and Ontario. British Columbia provides a guaranteed minimum income for handicapped persons aged 18 to 59 inclusive. An applicant must be disabled and meet prescribed age, residence, assets and income qualifications. Alberta has the *Assured Income for the Severely Handicapped Act* which provides, subject to the income of the recipient or his spouse, for benefits for handicapped residents of Alberta over 18 years of age who are not eligible for benefits under the federal *Old Age Security, Blind Persons* or *Disabled Persons Acts* or the *Disabled Persons' Pensions Act*. Such benefits are payable in respect of severe physical, mental or psychological handicaps. Ontario has a guaranteed annual income supplement program for disabled persons who are under the age of 65. This plan is integrated with Ontario's general social assistance program.

PREVENTION OF DISABILITY

Prevention, early detection and health promotion require special attention to vulnerable groups, and within them to those at highest risk. The aim of a risk approach is to give special attention to those in greatest need within a framework of improved health for all (WHO, 1978).

Immunization against communicable diseases; sanitation; personal hygiene; control of environmental and industrial hazards of biological, chemical, physical or psychosocial origin; nutrition; rest; exercise; social interaction, and support, are all factors in the prevention of impairment or disease, and the promotion of well-being.

From the perspective of disabled persons, prevention of impairment, early detection and correction or limitation of resulting disabilities (secondary and tertiary prevention) are all important. The principal object of prevention, once an impairment has occurred, is to prevent or reduce to an irreducible minimum the degree of handicap occasioned by the original impairment. Whether a particular impairment or disability constitutes a handicap to an individual, infant, child, adolescent or adult is the result of a complex of highly personal and environmental factors.

Reproductive Risks

It is estimated that 90 per cent of pregnancies are carried to term without any or only minor complication to mother or infant. In recent years, greater concern, coupled with improved technology for detection of specific abnormalities, have led to improved antenatal, perinatal and neonatal care. Since 1970, the Department of National Health and Welfare has had a surveillance program on congenital anomalies, which by 1977 included the participation of the Provinces of New Brunswick, Manitoba, Alberta, British Columbia, Prince Edward Island and Ontario.

Since the early Seventies, great advances have been made in antenatal diagnosis of genetic diseases. In 1972, a Canadian registry for prenatal diagnosis of genetic disease was established at Queen's University in Kingston. Chromosomal abnormalities (the most common of which is Down's Syndrome), which comprise about 0.4 per cent of all pregnancies, can now be detected through amniocentesis. (Current experience reveals that the risk of Down's Syndrome and other chromosomal abnormalities rises from 1.600 in the population at large to 1.7 per cent in the age group 35-40, and 3.5 per cent in the age group 40-45).

"Polygenic" disorders, which constitute about 2.6 per cent of all births, include such diverse disorders as club foot and harelip that are amenable to early correction as well as anencephaly, hydrocephaly and congenital heart disease, often not detected soon after birth. Most of these cannot be diagnosed in the first half of pregnancy. It is now possible to diagnose a very high percentage of neural tube defects in utero with the use of ultrasound.

In addition to detection of physical and structural anomalies at birth, subtle enzyme changes are now detectable for phenylketonuria or hypo-thyroidism; such early detection avoids progression to irreversible damage. Technological innovations are also preventing delays in detection of congenital hearing impairment so that appropriate stimulation of communication skills may be commenced as early as possible. Despite these advances, preventable congenital disabilities of viral origin still occur, e.g., the cases attributable to rubella (44 in 1974).

Recent attention to reproductive health has revealed some dangers of mutations (a change in chromosomes or genetic material of the cells) which may occur in the male sperm cells or female egg cells and result in a birth defect of children of parents exposed to hazardous industrial or environmental gases, radiation or chemicals. Defects may occur long after such exposure and may be manifest at birth or appear much later.

Genetic counselling is now available from teams operating in the major medical centres, as well as satellite clinics in Canada. They provide medical information based on heredity, environment and lifestyle factors (including nutrition, smoking and alcohol), risks of recurrence and options for dealing with the problem. About 2000 congenital anomalies have now been identified. Specialized high-risk units are now available as referral centres in all or most provinces. Congenital abnormalities rank third as a cause of hospitalization of infants in their first year.

A Coalition for the Prevention of Handicap was established in 1979 under the aegis of the Canadian Institute of Child Health for a multidisciplinary approach to good reproductive health. Consisting of 12 organizations, its objectives are: (1) to give recognition and support to the concept that prevention of handicap is an important national priority; (2) to launch a public education campaign to educate not only the public, but also the health professionals; (3) to stimulate and coordinate national and provincial efforts; and (4) to effect priorities, policies and allocation of resources.

In *early childhood*, the next crucial period, disabilities may be prevented by poison and accident control, and by early detection of lags in sensory, communication, motor, intellectual or social development. A simple 10-question interview based on the Denver Developmental Scale is now used in some parts of Canada to facilitate and expedite detection of children at risk in ordinary examination settings.

For the *school age* population, functional physical and/or mental disabilities should be easily detected, as daily observations over long periods are possible. Moreover, new screening techniques to detect deformities such as scoliosis and improved surgical interventions may now prevent a school-age child from becoming a disabled adult. Good health practice and healthful lifestyles may be promoted as a natural component of the learning process.

Much remains to be accomplished in the promotion of positive health within the educational system, at all levels from early childhood to post-secondary institutions. Regional health care programs, where these exist, would include school health as part of the overall program. In times of financial constraint, the danger exists that school health screening and maintenance practices, as well as health education. may be granted low priority by both education and health authorities and fall between two stools. The development of resource kits for pupils and teachers is a promising avenue for inculcating a preventive approach.

Violence against children, women, the aged and minorities is another preventable cause of death and disability. In 1977 more than 100 000 persons reported assaults.

Accidents, which are the third leading cause of death in Canada are also leading preventable causes of disability. In 1977, nearly half of all fatal accidents were caused by motor vehicles, which also are the leading cause of spinal cord injuries, particularly in young males, but now increasingly in young females. Safety belts, reduction of speed, reduction of alcohol and drug dependency are major factors in the reduction of vehicular accidents.

The 1979 Annual Report of the Canadian Paraplegic Association revealed that 59 per cent of spinal cord injuries occurred as a result of motor accidents, compared with 16 per cent attributable to falls, 10 per cent to sports and seven per cent to industrial accidents. All accidents are by definition preventable, when attention is paid to safe environments, safe storage use and maintenance of equipment and safety-conscious behaviour.

After motor vehicles, *the home* accounts for most of the fatal accidents! Of the victims of fatal falls in 1977, about seven out of 10 were 65 years or over, mostly women. Falls are a major source of hip fracture in aged women, and osteoporosis is the underlying condition which, if not controlled, creates or prolongs the disability. The prevention of poisoning and of fatal or disabling consequences of poisoning, have shown marked improvement since the establishment of Poison Control Centres in Canada, and the development of child-proof container tops for medications and toxic household substances.

For *the working-age group*, close to one million work accidents occur annually, and on every working day, nearly four thousand Canadian workers are injured at their jobs; 14 000 hospital rooms per day are occupied by accident victims.

Occupational Health

Much more is known about occupational accidents than about occupation-related diseases, which generally have a long latency or incubation period. The contribution of work and the work environment to mental illness, psychosocial problems, fetal abnormalities, chronic degenerative diseases, minor injuries, and the exacerbation of underlying conditions is unknown in Canada.

Concern about occupational hazards has been growing. In 1976, the Federal-Provincial Ministers of Health agreed that occupational health was an issue of highest priority in Canada. A number of initiatives were undertaken which culminated in the passage in 1978 of the *Canadian Centre for Occupational Health and Safety Act* to promote the fundamental right of Canadians to a healthy and safe work environment by creating a national institute which would act as a clearinghouse.

Now in operation in Hamilton, the Canadian Centre for Occupational Health and Safety has as its objects: (a) the promotion of health and safety in the workplace in Canada and the physical and mental health of working people in Canada; (b) the facilitation of consultation and

cooperation among federal, provincial and territorial jurisdictions and participation by labour and management in the establishment and maintenance of high standards of occupational health and safety appropriate to the Canadian situation; (c) assistance in the development and maintenance of policies and programs aimed at the reduction or elimination of occupational hazards; and, (d) serving as a national centre for statistics and other information relating to occupational health and safety.

In 1983, the Centre will host the 10th World Congress on the Prevention of Occupational Accidents and Diseases sponsored by the International Social Security Association and the International Labour Organization (ILO).

As noted above, disability increases in extent and severity with age when constitution, lifestyles and environmental exposure catch up with us. Medical knowledge of heart disease, cancer and arthritis, the major disabling conditions of middle and later years is still incomplete. Prolongation of life, with limited disability or distress, and new findings in the control of pain are promising developments. On the other hand, anticipation or reversal of disabilities and disorders in the old is still less than optimum, as health providers and the general public dismiss or tolerate infirmities which they attribute to the aging process. Health promotion in old age becomes an important challenge as the proportion of aged persons grows, if we are to arrest or reverse the present pattern of excessive or inappropriate utilization of medical and institutional facilities.

At the request of the Conference of Deputy Ministers of Health of Canada, a Canadian Task Force on the Periodic Health Examination was established in 1976 to determine how the periodic health examination might enhance or protect the health of the population and recommend a plan for a lifetime program of periodic health assessments for all persons living in Canada.

The Task Force identified the main killing or disabling conditions, unhealthy states and unhealthy behaviours affecting Canadians at each stage of the life cycle, by sex, and determined which could be prevented according to present knowledge. It identified groups in the population at high risk for specific preventable conditions, states and behaviours. More than 90 potentially preventable conditions were identified and studied.

The Task Force approached the burden of suffering in terms of the impact of the particular condition on the *individual*, i.e., the years of life lost, the amount of disability, the pain and discomfort, the cost of treatment and the effect on the individual's family; and, on the impact on *society*, i.e., the mortality, the morbidity and the cost of treatment.

The report and recommendations (Canadian Medical Association Journal, November 3/79) included measures to reduce the prevalence or progression of specific diseases or disorders and to promote and protect the health of noncomplainants. The Task Force recognized that services could be offered in many settings, in addition to physicians' offices, hospitals, ambulatory care settings, schools, public health units, and that preventive procedures could be carried out by allied health personnel.

The Task Force recognized the need for sustained public information programs and evaluation procedures; it recognized that current payment methods may discourage or penalize medical practitioners who emphasize prevention in health and maintenance and recommended proper recognition and reward; it further recognized the dangers of *labelling* people with disease rubrics and cautioned on the risk of mislabelling through false positive results.

The Task Force recommended a similar approach for environmental and occupational health and for preventive measures aimed at improving community health.

CHALLENGE FOR THE 80's

The Changing Scene

Increased attention to the needs of disabled persons and the evolution of the rehabilitation movement is one of the hallmark social accomplishments of the century.

Canada is among the most progressive of nations in human service provision, including the treatment and support accorded its disabled citizens. In the early stages, it pioneered in the areas of education, residential care, restorative programs for injured workers and war veterans, voluntary organizational leadership of causes of disabled persons, medical and hospital care, rehabilitation and vocational rehabilitation. In the past decade it was among the leaders in advocating and testing such concepts as normalization, integration, mainstreaming, organizational system design innovative programming and revitalization of consumer movements.

Changing Expectations

The 80's generation stands on the shoulders of giants who pioneered in the field and from that vantage point envisions new horizons of opportunity leading to aspirations and expectations for a higher quality of life. Disabled persons no longer are rigidly classified into simplistic categories for purpose of stereotypical treatment program or facility design. Newer concepts such as the "Individual Program Plan" and "Individual Service Contracts" recognize that the needs of each individual are varied and continuous, changing throughout life and will become more varied as disabled persons gain confidence and increase their expectations for themselves.

New Kinds of Problems

For several decades the growth curve of human service development moved upwards, perhaps at a slower rate but generally in parallel to the expansion of the nation's economic growth and resources development. In future, the spread between the continued rising consumer demand and the relative decline in resource availability will widen. Inflationary conditions will exacerbate the problem. This will have major implications for the human services field in general and help for disabled persons in particular.

Legacy of Unregulated Growth

Literally no restriction exists for citizens to form incorporated societies, raise funds and take collective action on behalf of a "cause". This has encouraged a "closed system" approach to service delivery; special education and rehabilitation separated from the generic services and formed organizations representing specific diagnostic groups. Initially, this laissez-faire environment stimulated development and accelerated goal attainment. Progress almost certainly would have been slower had it been necessary to penetrate the established generic service systems beforehand. Voluntary organizations characteristically side-step rational long-range planning and governments resist regulation of volunteer effort because it tends to dampen innovation. Ultimately, unbridled development creates problems of another kind. In this instance it has resulted in an array of disparate and semi-coordinated or uncoordinated public and private activities.

It becomes a paradox; though the needed resources may be present, the activity is too decentralized and uncoordinated at local levels to achieve necessary comprehensiveness and continuity in the delivery of services. Also, at the provincial and national levels, it is too centralized and departmentally uncoordinated to respond adequately to individual needs of service providers and of service consumers. Both local and central systems are, at the same time, too uncontrolled and controlled, too simplistic and yet complex, too flexible and too rigid, with the result that while there has been initial dramatic growth, the side-effect is unacceptable cost inefficiency and ineffectiveness.

Problems and Promises

Following are some selected areas highlighting major problems and challenges to be met for significant future progress:

A. *Medical Rehabilitation and Medical Science*

Medical science and its application have been the touchstone for change and progress in human restoration of function, prevention of disability and in the decrease (or increase) of prevalence. This role will become even more critical in future as the field of rehabilitation enters the third "medical revolution" with new discoveries and more sophisticated applications (The first revolution was the discovery of infectious agents as the cause of disease and later use of preventative measures to control them, and the second revolution according to Dr. I. Selikoft was realization that disease could be caused by insufficiencies. The third stems from discovery that disease and deformity can be caused by external factors from sunlight to cigarette smoke and hazardous chemicals). Some research scientists see no limits to the potential for new discoveries leading to prevention and treatment; more forms of disability will be eradicated while others may increase with further enhancement of life-saving techniques. Impact of biomedical progress will continue to cause turbulence in the fields of bioethics, law and religion.

B. *Prevention*

Knowledge and methods of prevention generally exceed optimum potential application. Much variation exists between federal and provincial legislation relating to prevention in the areas of health, environment, home and occupational safety, food and drugs.

A unified broad thrust is lacking and awaits a coordinated approach. One possibility is to emulate the industry-government kind of association which now exists for industrial accident prevention. More effective local education and public involvement also must be achieved.

C. *Technology and Quality of Life*

Within the present decade, improvements in micro-processing, bio-engineering, communication technology and increased electronic information storage capacity will greatly expand the potential horizons for many persons with motor, language and/or learning problems. Non-verbal persons will enjoy substitute language synthesizers. Homebound persons will be able to receive a full range of education, shop and work from home and be entertained at home.

Mobility will be enhanced with improvements in transport equipment, from wheelchairs to automobiles. Prostheses and orthotics will approximate more closely normal functioning needs. Adaptation of residential units will be possible in increased number to meet the needs of either ablebodied or disabled persons without adverse or undersirable aesthetic changes. Some products will be available commercially; for others, the market will not be sufficient or the changes in technology will be so rapid as to discourage manufacture. A nationwide consortium of public research and design bodies, manufacturers and distributors will be needed to realize optimum benefits. International networks may, in future, be necessary to achieve optimum benefit from the potential of technology.

D. *Marketing Technical Aids*

Ways must be found to provide private industry with larger markets for consumer aids for the disabled. The Canadian market is too small to allow the economies of mass production and the amount of subsidy required to provide aids at reasonable prices to the consumer is prohibitive. The International Commission on Technical Aids, a standing committee of Rehabilitation International, has as its objectives the securing and distribution of information on research and development throughout the world, providing information on technical aids and the feasibility of production and marketing for the consumer markets. In Canada, an organization called TASH (Technical Aids and Systems for the Handicapped) has been established to meet some of these needs.

E. *Technology Also Can Isolate*

Indiscriminate substitution of technological aids for otherwise normal lifestyle activity, encouraging disabled persons to remain homebound for instance is not ideal for disabled persons. It can lead to various types of personal isolation and precipitate other kinds of psycho-social problems. While the telecommunications technology, for instance, can ease isolation for the homebound, in much the same way radio has done, it also can serve to reduce direct human interaction and contact; psychological and physiological losses may outweigh other benefits for all but the most severely disabled persons. Future program planners, therefore, have a major obligation to prevent the magic of technology from creating new problems that are worse than the original disability condition.

F. Work Adjustment and Retraining

Like other ablebodied persons, disabled persons are likely to need lifelong ongoing work adjustment opportunities. Some will need to change jobs several times in their lifetimes; for some of them, this will mean extensive retraining. Job elimination and high levels of unemployed may be a chronic state for decades to come because of the growth of micro-technology and general turbulence in world economies, and disabled persons in the job market will be affected at least as much as their ablebodied neighbours by these unsettled conditions.

G. Stagnation in Sheltered Employment

Sheltered workshop employment has become a major occupational setting for moderately and severely impaired persons. While alternatives exist to this approach, some 300 "activity centres" or sheltered workshops now exist, providing marginal employment in assembly, manufacturing and "make do" activities for the most part. Efforts have been made to collectivize procurement of contract work for such workshops, as well as for marketing and product design. This has met with limited success, one reason being the uneasiness of individual corporations toward cooperative agreements with the workshops, private enterprise fearing loss through competition with existing contracts. At present there exists a somewhat self-defeating climate in the field of sheltered workshops, despite a desire to move closer toward real industrial models. The transition is difficult.

H. Transition from Economic Dependence to Assisted Independence

Social assistance recipient groups have fought over a long time to change policies leading to reduction or loss of benefits due to employment earnings, favouring instead such alternatives as negative income tax. Involving public funds, this is a difficult problem to solve, as it can lead to some abuse, further reinforcing negative views in society towards all minority groups.

I. Affirmative Action and Quota Systems

A number of nations have mandatory legislation, obliging employers to hire a specific percentage of disabled workers. The United States in particular has "affirmative action" and non-discrimination legislation designed to provide equal opportunity to minorities in all firms doing business with the Federal Government. These programs do not necessarily assure employment to the majority of disabled workers, especially among those with more severe disabilities. Over a period of time, however, such policies may lead to more equal treatment of handicapped persons on the labour market and will help to decrease obvious discrimination. Such plans also serve to enlighten and arouse the public conscience. In Canada, there have been some efforts to initiate affirmative action programs, especially in the federal civil service; these programs have sufficient merit to deserve the applause of consumer groups. The American experience with affirmative action programs greatly impressed Members of the House of Commons Special Committee on the Disabled and the Handicapped during their research in 1980.

J. Transportation

Readily available transportation for physically handicapped persons unable to use public transport in communities across Canada remains a major gap in comprehensive service programming and is a challenge for the 80's, as well. Ventures bringing together commercial and other public service carriers - school, fire and other emergency support - and public/private transit systems in cost-beneficient arrangements are part of the new conceptual approaches needed to the transportation problem.

K. Needs of Aged Disabled Persons

With improved care, physically and mentally disabled persons have a longer life expectancy than previously has been the case. Human services programming, including rehabilitation, tends to focus on the young and potentially productive. There has been a void in research, planning and program development for the increasing number of elderly disabled persons. Meeting their needs will pose a challenge in the 80's.

L. Recreation, Leisure, Arts and Culture

Disabled persons have fewer opportunities to be actively involved in recreation, in the sports and leisure social activities necessary for healthy mind and body development and maintenance. At the same time, excellent programs in the broad areas of physical activity and the arts do exist for handicapped persons and conducted by handicapped persons; but these need expansion. This is an area with potential for major future growth and one in which non-profit generic and specialized organizations can make material contribution. The key again is coordination and a catalytic agent.

M. De-institutionalization

Efforts to de-populate large residential institutions for the mentally disabled and for the mildly mentally retarded persons began some 30 years ago. It was done often without adequate preparation or alternate resources in the community. Rather than finding sound alternate placement facilities, too often it turned out to be a case of "dumping". The problem was compounded by the reliance on private, profit-making custodial living situations such as boarding houses or nursing homes, rather than on a well-planned range of housing options that could have provided support. Many residents merely moved from one unsatisfactory setting to another one; if anything, this has added to skepticism about the merits of de-institutionalization.

There will be no real solution of the problem until community service delivery systems prove adequate alternatives to community living for moderate and severely disabled persons. Additionally, improved guardianship and protection arrangements are needed to assume legal responsibility in the absence of parents or guardians, for persons living in the community setting and requiring such support.

N. The Changing Scene: Group Homes and Public Attitudes

Few, if any, actions have penetrated so deeply the public subconscious fear and prejudice about handicapped minorities as efforts to establish group homes in traditional residential areas. Sympathy and tolerance change to anger and even to violence when such plans become known. Recent assessments and survey results, however, have revealed dramatic improvement in acceptance and attitudes of neighbours after group homes have become established. The presence of well-run, family-like residences for handicapped persons has helped more and more neighbours feel comfortable with the "new people on the block".

It is further evidence that true attitudinal changes require direct personal interaction between the general public and those who are the object of negative attitudes. This suggests that, in future, the management problems accompanying integrated programs will be secondary to positive attitudinal change.

O. *Transition of Staff from Institutions to Community Services*

The objective of most governments today is to de-populate large institutions by providing a variety of community living arrangements consistent with the principles of normalization. To assure special developmental needs of handicapped persons are adequately served, community programs will need well-trained staff and managers to design, develop and operate them. At present few governments have systematic programs to ensure such competency. Neither is there a mechanism to assist employees wishing to relocate from residential facilities to local community programs.

P. *Volunteerism in Transition*

With the advent of the "Conserver Society" and as the human services field competes for declining public revenues relative to rising demands, inflation and other similar societal concerns, service agencies again will become more dependent on volunteer help.

Q. *The Consumer Movement*

In future, more disabled persons will form organizations to act as advocates on their behalf. Their concerns will extend beyond formal service provision to include quality of life considerations in general. Already they are becoming increasingly confident and competent in advocacy and self-help activities.

International Aspects

Canada has served as a good world citizen in the international rehabilitation arena, playing a pioneering role in both developing expertise and in sharing it with other nations. Conversely, it also has benefited greatly from developments elsewhere.

The restoration services mostly have helped limited numbers of handicapped persons in the urban areas of Third World Nations. A promising development has been the decrease in emphasis on exportation of "western" technology and the placing of greater importance on indigenous resources - a shift from high technology to low, more simple or "appropriate" technology as it is being euphemistically called. Emphasis now is on training families and communities in self-help methodology which can be adapted to their own culture and resources. This dramatically different approach may influence programming in developed countries as well, where a neo-conservation sentiment suggests more self-reliance at family and community level rather than continued dependence on big government.

A New Logic for Rehabilitation

New ideas and solutions emerge from approaching questions about the future in different ways. Rehabilitation pioneers approached the question of treatment in a non-traditional fashion, leading them to the multidisciplinary approach and unprecedented benefits for disabled persons. Similar innovation resulted in the concept of normalization and integration. The time is opportune once again to ask "Who is disabled"? The answer is that almost everyone is. Why do we need specialized, ghettoized facilities for some disabled persons? The questions are being asked and the answers being acted upon. It is happening selectively, with benefis to the population of Canada as a whole; the time has come to include the general populace in programs and facilities developed initially for disabled persons.

Action-Research Catalyst

The rehabilitation field in Canada needs a mechanism through which inter-provincial, inter-agency and inter-disciplinary problem-solving can occur. Following are examples of problems which cannot be resolved effectively and will not be resolved effectively without such an intermediary vehicle.

A. Regional Disparity

Not all disabled Canadians have access to one standard of care. Equalization payments through the Federal Government are designed to reduce disparity, but geography, climate, population, rural-urban lifestyles and other factors lead to variable quality and availability of service. The trend away from national to provincial control and influence of human service program development may exacerbate the problem. Smaller, less wealthy provinces cannot match the research, development and service resources of larger, richer provinces. Regional disparity is likely to continue unless some other form of "equalization" is found.

B. Prevention

Prevention is on the agenda of rehabilitation organizations for present and future action. There is much activity but it is fragmented. Future efficiency requires a coordinated effort and a clearinghouse for unified action.

C. Information Retrieval

The information explosion in the rehabilitation field leads to waste and confusion. Potential users of information need access to a central system capable of coping with a large volume.

D. Workforce Development

While the development of suitable workforce is clearly within the provincial jurisdiction, a need exists for inter-provincial sharing of information on curriculum development, standards and credit, or recognition systems. This also is true for short-term continuing education in the field of rehabilitation.

E. Technological Development

The necessary technical resources to find better solutions exist in universities, governments and in a host of other public and private organizations. However, these resources are so dispersed and without effective linkage that in-depth concentration of effort seldom is realized.

Clearly a critical need exsts to facilitate coordination of these resources - a helping process which does not add another agency with jurisdiction over others, but serves to support those now extant. In Canada and elsewhere some experimentation in this direction has been done in the form of national resource centres. Experience has shown that such entities tend to be effective in information acquisition and dissemination; they are effective media for stimulating inter-agency collaboration in action - research activity and short-term training. Their value depends on their not becoming involved in any activity which can be done by others, such as service or planning agencies, research institutions or institutions of higher learning, governments or other national or provincial agencies. Their success depends on responding fully

to needs perceived by the organizations they serve. Conversely, they need to be accorded a necessary degree of neutrality and freedom of function in order to be totally objective. Such entities have been recognized internationally for their effectiveness in facilitating the mobilization and blending of science and technology resources with those of service agencies and in giving technical support to consumer movements.

Rehabilitation Resource Centre: Consumer Goal for the 80's

In the present context, the central question for the disabled person and his or her family is "What united action will improve my quality of life within existing resources?" One answer is more effective sharing of these resources and better coordination of effort. This needs to occur at all levels of activity. It can and should be done at local, regional and provincial levels. For some subjects, Canada-wide inter-change is vital. There is need for (a) coordination in the area of prevention, (b) collaboration between industry, labor, government and the rehabilitation field in the vocational-employment area, (c) national and international collaboration in further adaptation of telecommunications, prostheses and other technologies, (d) further refinement and adaptation of organizational systems theory and the development and testing of comprehensive community service delivery models, (e) collaborative research and application in the areas of drug control, behavioural change, mediated learning and other socio-environmental considerations, (f) studying the changing role of volunteers, voluntary agencies, government and institutions of learning, (g) development of more effective evaluation methodology, and (h) more study into quality of life issues of disabled minorities.

There is now sufficient experience to plan for a Canada-wide problem-solving mechanism. Sponsorship might be by government, non-governmental organizations or some combination thereof with the voluntary sector, provider agencies and consumer organizations. The essential contribution of such a development lies in its support role to help consumers become more competent and service agencies more effective in their respective roles. This would not be a super-agency; it would not have jurisdictional authority. It would merely be a facilitator, the missing link in the present rehabilitation chain. This approach may seem idealistic. However, it could develop in stages, proving itself as it grows, or it may develop as a consequence of consumer demand on providers.

Widening Horizons

New opportunities as well as problems lie ahead for rehabilitation. There are new freedoms, new expectations and more open lifestyles for physically and mentally handicapped persons. There are, however, new challenges to overcome as well. The issues become increasingly complex, comprising safety and emergency techniques, drug abuse, job readiness, space-age innovations, crime protection techniques for handicapped persons, emotional problems on the job, vacation travel barriers, adequate housing and transportation. There also will be wider opportunities - innovations in opening jobs to disabled workers, growing interest and participation on the part of organized labor, increased employer acceptance, new volunteerism and more primary consumerism.

Disabled persons are on the threshold of a new era of self-determination, advocacy and militancy. New technology offers the potential for significant and dramatic progress. The service field, however, faces uncertainty and difficult changes not only because of entrenched patterns and dated facilities, but also because of growing economic constraints.

These problems will be surmounted in due course and disabled persons will applaud those persons who are guided by these simple idealisms:

- Small and personal is beautiful.
- The best is close to home.
- Family support and neighbourhood, first and foremost.
- Individualized living arrangements for all.
- Security and permanence, with local community control.
- In the middle of things, not outside looking in.
- Serve needs, not labels.
- Informed consumer power safeguards the road ahead.
- There is dignity in risk.

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